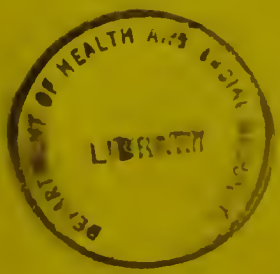


The Medical Officer of Health

R C WOFINDEN, MD, MRCP, DPH, DPA

City & County of Bristol

REPORT FOR 1971

THE HEALTH SERVICES OF BRISTOL IN 1971

CONTENTS

THE HEALTH SERVICES OF BRISTOL 1971

My Lord Mayor, Ladies and Gentlemen,

I have the honour to present my sixteenth Annual Report on the health of the City and County of Bristol, which is compiled in accordance with Department of Health and Social Security Circular 1/72.

Vital Statistics

According to the advance analysis of the 1971 Census, published by HM Stationery Office on behalf of the Office of Population Censuses and Surveys, the population in the City in April was 425,115, of whom 21,990 (15,330 women and 6,660 men) were born before 1896, that is 5·2% over the age of 75 compared with 4·6% for England and Wales. There was a small rise in the number of births from 5,603 in 1970 to 5,620 in 1971 (adjusted birth rate 15·2). The number of illegitimate births rose from 653 in 1970 to 866 (10·9% of all births in 1971).

The number of legally induced abortions increased from 671 in 1969 to 1,012 in 1970. Of these women 526 were single 394 were married and 92 were classified in other ways. Of the total 39 were aged under 16 years and 20 aged between 16 and 19 years. Most of the abortions were carried out in the home region, 690 in N.H.S. hospitals and 273 in non-N.H.S. hospitals; of those carried out in other regions 4 were in N.H.S. hospitals and 45 in non-N.H.S. hospitals.

Fears have been expressed that "abortion on the N.H.S." would delay (in the absence of expanded facilities) the treatment of patients with more important gynaecological conditions. It is therefore of interest to note that two members of the staff of the United Bristol Hospitals* in considering the effect of the Abortion Act on gynaecological work in a provincial teaching hospital found that despite a 45% increase in patient turnover, the gynaecological waiting list actually increased by 200%. They suggested that so far the Act has had little effect on the birth rate or on illegitimacy and there might even have been some increase in criminal abortion.

I am glad to report a fall in foetal and infant mortality. The rates for infant mortality (17), stillbirths (12) and perinatal mortality (21), were lower than the national figures of 18, 12 and 22 respectively. There was no maternal death during the year.

The main health indices in Bristol again compared favourably with 11 of the largest County Boroughs in England and Wales, and the City had the lowest adjusted death rate, infant mortality rate, notification rate for respiratory tuberculosis, and death rate from all forms of tuberculosis. The perinatal mortality rate was the second lowest, and the stillbirth rate the third lowest. Ischaemic heart disease remained the greatest single cause of death in the City (1,361 deaths) and heart disease of all kinds accounted for 35·8% of total mortality. Among the factors known to be related to ischaemic heart disease are cigarette smoking, lack of exercise and unsatisfactory diet. During the year there was considerable interest in the suggestion that changes in water hardness might have an effect on local death rates for ischaemic heart disease, but in a local study no variation was found in death rates in the districts receiving softened water, principally Knowle and Brislington, compared with the rest of the City. Malignant neoplasms (1,096 deaths), representing 21·0% of all deaths, the second most important cause, included 265 deaths from lung cancer. There were 168 deaths of

* John A. H. and Hackman B. (1972) British Medical Journal 3, 99–102.

Bristol residents from violence, 118 in Bristol and 50 in other areas. The analysis of deaths from suicide (31) showed that barbiturates and narcotics were taken in excessive quantities by 13 people.

Infectious Diseases and their Prevention

There was a generally low incidence of infectious diseases. For the twenty-second consecutive year there was no case of diphtheria in Bristol, and for the tenth year none of poliomyelitis. There was, however, a marked rise in notifications of whooping cough, which persisted from April through to September, and 240 out of a total of 296 were reported during this period. It was shown that in children under two years of age the disease occurred only rarely in those who had received a full course of immunisation*. By the age of three the immunity was beginning to wane although 90% of these children still appeared to be protected. Fortunately the disease was mild and no death was reported .Although 89% of children received a full course of immunisation before the age of two years, small outbreaks of whooping cough continued to occur.

There were 1,001 notified cases of measles in 1971, compared with 1,384 in 1970 and 1,463 in 1969. Measles vaccine came into general use in Bristol in 1967. There was a sharp fall in notifications in 1968, but since then only a small decline. Nevertheless the City no longer experiences the biennial epidemics (with 6,000 or more cases in one epidemic year) occurring in pre-vaccination days. However, it has been estimated that it is necessary to have a vaccination rate of 80 to 90% of children born each year in order effectively to prevent transmission of infection.

There were 1,256 notifications of rubella, mainly between April and August, compared with 433 in 1970. Vaccination against rubella of girls aged 11 to 14 years, began towards the end of 1970. It is not expected to have any great impact on notification rates, since most cases occur in younger children, but protection of the individual girl is desirable because of potential damage to the foetus in utero in a susceptible woman.

There were 126 notifications of infective jaundice in 1971, the smallest number recorded since 1963 (112 notifications). Cases occurred sporadically all over the City, and no recognisable foci developed. The only wards which exceeded 0·5 cases per thousand population were Easton (1·03), Henbury (0·51) and Southmead (0·52). Experience in the epidemiology of the disease in Bristol was compared with national and international trends*.

More reports of scabies were received during 1971 (made up of 71 family infestations and 2 individual infestations) than in previous years, including 34 from general practitioners, 14 from the School Health Service and 10 from clinics.

In November the Secretary of State accepted the advice of the Joint Committee on Vaccination and Immunisation, that vaccination against smallpox need not now be recommended as routine procedure in early childhood. Vaccination is recommended for all travellers in areas of the World where smallpox is endemic or countries where eradication programmes are in progress, or for health service staff who may come into contact with patients. Our vaccination policy has been readjusted to fall into line.

The Foreign Travel Clinic continued to be very active. From 1961 to 1969 an average of 1,000 people have requested protection against yellow fever, and the totals

* Rowland A. J. and Skone J. F. (1972) *British Medical Bulletin,* Vol. 28, No. 2 pages 149–155.

increased in 1970 to 1,295 and in 1971 to 1,564. Of the total 39% were travellers on business and 43% holiday makers.

In 1970 and 1971 cholera spread to several foreign countries and for a short time in Spain and Portugal, putting holiday visitors at some increased risk. World wide demand for cholera vaccine increased, and there were times when supplies were short. Local demand by holiday travellers was considerable. Altogether 1,577 people had first doses in the Foreign Travel Clinic, although only 551 returned for a second dose (usually because of insufficient time before departure) and family doctors gave injections to a further 3,431 travellers. Between September 17th and October 12th 970 people who returned from cholera infected areas to Bristol were followed up for six days to ensure that they had not contracted the disease. No case of cholera was discovered, but a number of salmonella infections were reported amongst those with diarrhoea. During this period nearly 20 aircraft were met at Lulsgate Airport, often late at night or in the early hours of the morning, and 2,410 persons, mainly from other areas, who required surveillance, were identified.

Venereal Disease

The increased incidence of venereal disease, particularly gonorrhoea, is a matter of continuous concern, particularly as it is affecting the younger age groups. The number of male cases of gonorrhoea increased to 1,047, although the number of female cases fell to 687. In 1971 the percentage of male patients under 20 years of age was 14·2% and of female patients 31·2%. Infected symptomless females are a growing problem in the spread of this disease. To track them down and persuade them of the need for examination and treatment is a particularly difficult task.

Maternal and Child Health

In 1971 95% of Bristol babies were born in hospital, but planned early transfer from hospital to home, where mother and baby are cared for by the general practitioner and domiciliary midwife, is now an established practice. The number of discharges in the first three days after delivery increased from 1,145 in 1970 to 1,381 in 1971, and the number of discharges on the fourth and fifth day decreased from 773 to 593.

During 1971 1,399 new clients attended the Department's Family Planning Clinics, and the City Council agreed to an extension of family planning provisions in 1972/73 to provide a comprehensive service.

In September and October responsibilities for the administration of day nurseries, the welfare of unmarried mothers and recuperative convalescence for expectant and nursing mothers and young children were transferred to the Department of Social Services, but transfer of responsibility for the registration and supervision of nurseries (including play groups) and child minders was deferred until the necessary Social Service staff could be recruited. A Departmental Medical Officer continues to be allocated to each nursery and is responsible for periodic medical examinations and immunizations and for giving advice on general health and hygiene standards. Dr. M. D. Gibson advises on infections involving children or staff and on priorities of admission of children referred on health grounds. Health visitors co-operate with the matrons of day nurseries in relation to health problems associated with the home backgrounds of children on the registers. The social worker in charge of the welfare service for unmarried mothers holds interviewing sessions at selected health centres and clinics. The accuracy of ascertainment of young children with congenital malform-

ations improves year by year, thus providing an opportunity of making sure that everything it is possible to do for the child is in fact being done.

The number of ascertained special families was 1,208 and they were visited more frequently than usual by district and special health visitors. Unemployment has, of course, adversely affected the well being of many unstable family units and some mothers have been compelled to take employment outside the home when their husbands are unemployed. There have been increasing demands for places at Day Nurseries, nursery schools and nursery classes, but there are difficulties for satisfactory placement of children at holiday times. Advice on contraception is given to mothers and fathers and there is an increasing interest in vasectomy by some of these parents. There is no doubt that as a result of our intensified efforts special families have tended to be smaller in the last 10 years, with consequent diminution of their problems.

Health Education

From January to April, the Assistant Health Education Officer was seconded to the Department of Health and Social Security to lead a team of three interviewers in conducting a weighed dietary survey of 106 school children born in 1960. This was a pilot survey, one of three in the Country, the aim being to assess the nutrient intake of each child, linked with his socio-economic and physical condition.

With the appointment of an Assistant Nutritionist in March, it became possible to increase nutrition and dietary advice, mainly through more in-service training of staff. Work with overweight school children expanded, especially in secondary schools, and group therapy weight reduction classes were organised in co-operation with the Further Education Department. Nutritionists now have regular sessions at the William Budd, St. George, Southmead and Horfield Health Centres.

The Deputy and Assistant Health Education Officers arranged four "Stop-Smoking Courses".

By the end of the year 31,412 calls had been made to the V.D. Telephone Answering Service, and the recorded message giving information about the symptoms of V.D. and the address and clinic times of the Special Treatment Centre provides a valuable educational service. There is continued co-operation with the Bristol Cine Society in the production of a Health Education film on V.D.

Talks on health education topics including home safety, immunisation, and mental health were given on the local radio station in the "Womenwise" programme.

First aid training continued to be developed in schools and Corporation Departments, and a total of 5,138 students were given talks and 254 people received certificates in first aid.

A series of posters and leaflets have been produced, covering seven of the more serious conditions requiring first aid (poisoning, severe bleeding, shock, unconsciousness, broken bones, burns and scalds).

Home Safety Council

Forty Bristol citizens died as a result of accidents in or around their homes. Among the 25 females, the oldest was 89 and the youngest 4 weeks old, and 21 were aged between 65 and 89 years. Falls were responsible for most of the fatal accidents and involved 21 females and 11 males. Improperly installed gas water heaters were responsible for the deaths of an 18 year old man and a 24 year old woman.

The main activities of the Council were concerned with a first aid competition for secondary schools and a display and demonstration of life saving at Bristol Flower Show.

Nursing Services

Further progress was made during the year with the attachment of district nursing staff to group practices. By the end of the year 51 practices (126 general practitioners) were involved in home nurse attachment schemes and 17 practices (54 general practitioners) in health visitor schemes. Altogether 42 State Registered Nurses, 25 State Enrolled Nurses and 19 Health Visitors were attached. There was a sharp rise in the number of visits paid by the district nursing staff. Despite this the staff had greater satisfaction in their work because of their close association with general practitioners. Wider use of ancillary help has enabled health visitors and district nurses to apply their skills more effectively. Health visitors, home nurses and midwives previously based at Speedwell Health Clinic have now been transferred to Fishponds Health Centre.

Twelve home visitors from the Department attended a very successful refresher course for health visitors arranged by the Department of Public Health, University of Bristol, with the theme "Health Visiting, the Next Decade".

Ambulance Service

The Ambulance Service Advisory Committee submitted a number of recommendations to the Department of Health and Social Security which were approved and issued to Local Authorities as circulars for implementation. In the equipment field, the circulars received and mainly implemented covered such items as resuscitation, oxygen, suction, inflatable splints, radio communications, stretcher trolleys and Entonox. Circulars offering advice on safety precautions to be considered for vehicles used for ambulance purposes and action to be taken by ambulance crews when dealing with accidents involving vehicles carrying dangerous substances, were also received.

Demands on the service continued to rise, with emergency calls showing an increase to 9,609 cases. An analysis of the types of cases dealt with, showed that overdose of tablets, assault cases and sudden illness were prevalent. The ageing population also involved the Ambulance Service in increasing daily commitments to out-patient departments and day hospitals. A total of 214,590 patients were moved during the year with the assistance of the Hospital Car Service and Taxis Association, whilst the mileage run rose to 1,059,160.

The Bristol Service enjoys a reputation for being in the forefront with the introduction of new equipment and is always prepared to examine and assess items that would benefit patient and crews. Evaluation tests are being undertaken of a new type "scoop" stretcher for badly injured patients and resuscitation equipment. A new system was introduced during the year for the refuelling of vehicles which is believed to be unique in the City at present.

Services for the Elderly and Handicapped

There is continued close co-operation between the Public Health and Social Services Committees in developing provision for the elderly and the handicapped, and increasing consultation at member and officer level with the Board of Governors of the United Bristol Hospitals and the South West Regional Hospital Board.

Dr. J. F. Skone has reviewed community servies for elderly people in the City; Dr. M. R. F. Reynolds contributed an account of adaptations for home dialysis for patients for renal failure, and Miss E. Mott described her experiences as a Medical Social Worker attached to a health centre.

The Environment

The Working Party on Pollution set up in 1970 with representative officers of the Bristol City and the Thornbury Rural District Councils, Rio Tinto Zinc, the Alkali Inspectorate, the Department of Health and Social Security and the Ministry of Agriculture, Fisheries and Food, and Bristol University continued to meet during 1971.

Monitoring sites for heavy metal (Pb, Cd and Zn) pollution in the Avonmouth area were increased in number and many samples of air, soil, herbage and vegetables examined. It was clear from the results that the ambient air in Avonmouth and district is fairly free from aerosol lead but that considerable fall-out of heavy metals occurs in and around the smelter area. No evidence was adduced of any harmful effects to the neighbouring population.

On the 4th February 1972, the Secretary of State for Employment announced the setting up of a Special Inquiry into the conditions at the RTZ Smelter at Avonmouth because of the increasing number of employees showing excess lead absorption. The Report of the Committee, under the chairmanship of Sir Brian Windeyer, appointed to inquire into Lead Poisoning at the RTZ Smelter at Avonmouth* was issued in 1972. Inter-alia it made the point that the handling of toxic materials at the plant presents a potential hazard to people living in the immediate vicinity, but that our Working Party had recognized the hazard and taken appropriate action to safeguard the public. The hazard to lead workers' families from lead brought out from the plant by those who work there may be potentially more serious. Any breakdown in hygiene discipline at the plant could be dangerous not only to the workers concerned, but to their families and others with whom they come into contact. Although there have been no cases of lead poisoning in the wives and children of lead workers, chemical tests of lead absorption by children, carried out by staff of the Scientific Advisory Service in the Spring of 1972, showed that children under the age of five living in lead workers' families were, on average, absorbing more lead than children in a random sample of the population. Blood lead screening also showed that there was no evidence that atmospheric pollution from the smelter is leading to increased lead absorption in children from non-occupationally linked families living in the vicinity.

Occupational Health

Routine work of the Occupational Health Service included 3,907 pre-employment and periodic medical examinations. In addition 452 special examinations were carried out at the request of heads of departments in connection with work related to health problems, or at the personal request of employees.

First aid training has been considerably expanded by the continuation of monthly 5 day full time courses throughout the year. On average 25 persons were trained monthly. A voluntary register has been compiled of Corporation employees holding valid first aid certificates—the number on it at the end of the year was 202. This excludes qualified first aiders in the Police, Fire Brigade, Ambulance Service, and the Port of Bristol Authority.

A start has been made in safety training by the Occupational Health Service, and safety instruction forms part of all first aid courses. A full safety course is being planned.

* Published by HM Stationery Office July 1972 (Cmnd. 5042)

The Principal Medical Officer (Occupational Health) has continued to chair the Safety Officers Liaison Meeting. With the help of members of this meeting a report on current safety procedures with recommendations for improvement was prepared and submitted to the Occupational Health Committee.

Investigation into sickness absence in the Corporation has continued and a small survey has been conducted into the extent of and reasons for premature retirement on medical grounds. The survey shows that two thirds of the group studied who were recommended for retirement on medical grounds could have continued if sedentary light indoor manual work had been available.

Health Centre Developments

Fishponds Health Centre was completed during the year and we were delighted that it was opened by the Lord Mayor, Alderman Mrs. Helen Bloom, who had been a member of the Health Committee for 23 years. Plans are well advanced for further Health Centres at Whatley Road (Clifton), Easton, Hartcliffe and Knowle. Good progress was also made during the year with the Charlotte Keel Clinic/Health Centre conversion. Agreement was also reached for health centre conversions at Brooklea Clinic, Hartcliffe and Knowle, and for new Health Centres at 100 Fishponds Road and Whitchurch.

Staff Changes

Among administrative staff who were transferred to appointments in the Social Services Department were Mr. G. Birch, Records Officer, who had been in the Department since August 1959; Mr. A. R. Towells, Administrative Assistant in the Finance Section, who had worked in the Health Department since 1945; Miss J. Gowing, Clerical Assistant, Assessments (with the Department since 1960); and Mrs. B. Willmott, Maternal and Child Health Section, who had worked in the Department since 1949.

Miss Bernice George, who had been in the Department since 1945 and worked in the Staff Office, left at the end of June to take up a full time post as Branch Organiser of NALGO.

Dr. G. Febry, Principal Medical Officer, Port Health, since 1962, left on the 31st August to take up general practice.

Mr. T. K. Aston took up duties as Chief Public Health Inspector on 16th August, 1971.

Retirements

Mrs. L. Neale, senior midwife in the Department retired in July after 34 years service. She came to the Department in 1937 to help for two weeks and then stayed for 34 years. She worked in the Redland and Clifton area for the whole of that time and is well known as a friend to three generations of many families.

Mr. G. J. Creech, Chief Public Health Inspector, retired on 30th June, after more than 40 years service with Bristol Corporation. He came to the Health Department on loan from the City Engineer's Department in 1933 as Housing Assistant to take part in the slum clearance programme. Appointed Deputy Chief Sanitary Inspector in 1951, he succeeded Mr. F. J. Redstone as Chief Public Health Inspector in 1963.

Mr. K. C. Holden, who had worked in the Department as a Public Health Inspector since 1945, and done much valuable work since 1965 as Specialist Inspector under the Offices Shops and Railway Premises Act, retired in April.

Miss M. R. Epplestone, Home Help Organiser, retired in September. She was a health visitor for the Department from 1938-58 when she was appointed Home Help Organiser. She retired at a time when the service was being transferred to the new Social Services Department.

Miss A. E. Balsdon, M.B.E., retired on the 26th March, 1971 after 32 years service with the Department. She was appointed as sister-in-charge of the William Budd Health Centre in 1956 and transferred to a similar post at St. George Health Centre in 1964. She was awarded an M.B.E. in the Birthday Honours List in 1969.

Dr. A. M. Fraser commenced duty as a Departmental Medical Officer in 1938 and retired on the 7th November 1971 after 33 years service.

Mr. E. A. Chippett transferred from the Baths Department in February 1956 and was appointed Deputy Superintendent of the Disinfecting Station. He was appointed Superintendent in January 1957.

Deaths

Mr. P. L. Oates died on the 7th April 1971, at the age of 61, after 23 years service. He was with the St. John Ambulance until 1939 until it was taken over by the Corporation in 1948. He was appointed a Station Controller in November 1959.

Mr. L. E. Burrows retired on ill health grounds in January 1971 at the age of 59 after 19 years service with the Corporation. Mr. Burrows subsequently died in June.

I am grateful to the many contributors to this report, both named and un-named and to the whole of the staff of the Department who have continued to give me loyal and willing service. The Chairman and Vice-Chairman of the Public Health Committee have shown whole-hearted support and I greatly appreciate the help and guidance I have received from fellow Chief Officers. I am also indebted to my deputy, Dr. J. F. Skone, who has collated the report.

I am your obedient servant,

R. C. WOFINDEN.

PUBLIC HEALTH COMMITTEE 1971

CHAIRMAN

Alderman C. Hebblethwaite, C.B.E.

VICE-CHAIRMAN

Councillor Dr. R. P. Golding

ALDERMEN

Alderman Mrs. H. Bloom

Alderman Mrs. M. E. Castle, O.B.E., J.P.

COUNCILLORS

Councillor A. B. Abrams
Councillor Mrs. L. M. Alexander
Councillor Mrs. G. C. Barrow
Councillor Rev. P. W. P. Brook
Councillor Mrs. B. L. Edwards
Councillor W. Graves, J.P.
Councillor V. J. Jackson
Councillor Mrs. I. M. Knight, M.B.E.
Councillor Mrs. F. L. Lawrence
Councillor G. H. W. Woodhouse

PRINCIPAL STAFF, 1971

MEDICAL OFFICER OF HEALTH

R. C. WOFINDEN, M.D., M.R.C.P., D.P.H., D.P.A.
Deputy Medical Officer of Health: J. F. Skone, M.D., D.P.H., D.C.H., D.I.H.

PRINCIPAL ASSISTANTS

Senior Principal Medical Officer: H. Temple Phillips, M.D., D.P.H., D.C.H., D.I.H.
Principal Medical Officer—Maternal and Child Health: Sarah C. B. Walker, M.D., D.P.H.
Principal Medical Officer—School Health Service: A. L. Smallwood, M.D., D.P.H., D.C.H.
Principal Medical Officer—Epidemiology: A. J. Rowland, M.B., D.P.H.
Principal Medical Officer—Occupational Health: E. P. Hamblett, M.D., D.P.H., D.C.H., D.T.M. & H.
Principal Medical Officer—Port: G. N. Febry, M.B., D.P.H. (to 31st August)
Chief Dental Officer: J. McCaig, L.D.S., R.F.P.S.
Chief Public Health Inspector: G. J. Creech, M.B.E., C.St.J., F.R.S.H., M.A.P.H.I. (to 28th June)
T. K. Aston, M.R.S.H., M.A.P.H.I. (from 16th August)
Chief Administrative Officer: R. L. Hillman, B.A., A.I.M.T.A.
Chief Nursing Officer: Margaretta Marks Jones, S.R.N., S.C.M., H.V., N.A.C.
Chief Chiropodist: J. Pugh, F.R.S.H., M.Ch.S., S.R.Ch. (Public Health)

PROFESSIONAL AND TECHNICAL OFFICERS

Chief Ambulance Officer: E. C. G. Joy.
Health Education Officer: P. Mackintosh, B.A.
Systems and Programming Assistant: B. A. Parker.
Nutritionist: Margaret Chapman, S.R.D.
Liaison Officer: Marion Moncaster, A.M.I.M.S.W.

SCIENTIFIC ADVISER

E. G. Whittle, B.Sc., F.R.I.C.

VITAL STATISTICS & EPIDEMIOLOGY

A. J. Rowland, M.B., Ch.B., D.P.H., M.F.C.M.
(Principal Medical Officer—Epidemiology)

M. R. F. Reynolds, M.B., Ch.B., D.P.H.
(Senior Departmental Medical Officer)

H. R. Cayton, M.B., Ch.B., F.C.Path.
(Director of the Public Health Laboratory, Bristol)

Mrs. Celia H. Perry
(Meteorological Officer, University of Bristol)

VITAL STATISTICS

	1971	*1970*	*1969*	*1968*	*1967*	*1966*
POPULATION	426,170	426,370	427,230	427,780	429,020	429,370
AREA IN ACRES	27,073	27,073	27,073	27,073	27,073	27,073
NUMBER OF MARRIAGES	3,998	4,256	3,872	3,980	3,786	3,933
LIVE BIRTHS						
Legitimate M. 2900 F. 2720	5,620	5,603	5,776	6,032	6,261	6,587
Illegit. M. 337 F. 349	686	653	686	699	742	714
Illegit. expressed as percentage of all births ...	10·9%	10·4%	10·6%	10·4%	10·6%	9·8%
Total Births	6,306	6,256	6,462	6,731	7,003	7,301
Live Birth Rate (Crude) ...	14·8	14·7	15·1	15·7	16·3	17·0
Adjusted Birth Rate ...	15·2	15·1	15·6	16·2	16·8	17·5
STILLBIRTHS						
Legitimate M. 31 F. 32	63	75	67	96	79	98
Illegit. M. 6 F. 6	12	9	13	7	12	11
Total Stillbirths	75	84	80	103	91	109
Stillbirth Rate	11·8	13·2	12·2	15·1	12·8	14·7
Total Live and Stillbirths ...	6,381	6,340	6,542	6,834	7,094	7,410
INFANT DEATHS						
Infant Mortality Rate—Total	16·7	19·8	16·2	17·1	16·8	17·3
„ „ Legit. Births	16·9	19·5	15·2	17·2	16·5	17·2
„ „ Illeg. Births	14·6	23·0	24·8	15·7	20·2	18·2
Neo-Natal Mortality Rate ...	12·5	14·7	10·2	11·1	12·3	11·8
Early Neo-Natal Mortality Rate	9·8	11·7	8·4	8·8	10·7	10·7
Peri-Natal Mortality Rate ...	21·5	24·8	20·5	23·7	23·4	25·2
MATERNAL DEATHS						
Number of deaths	—	1	1	4	—	4
Maternal Mortality Rate ...	—	0·16	0·15	0·59	—	0·54
DEATHS AT ALL AGES						
Male 2,550 Female 2,675	5,225	5,416	5,425	5,329	5,044	5,426
Death Rate (Crude) ...	12·3	12·7	12·7	12·5	11·8	12·6
Adjusted Death Rate ...	11·8	12·2	12·1	11·8	11·1	11·7

TABLE 1

TOTAL DEATHS OF BRISTOL CITIZENS BY CAUSE AND AGE, REGISTRATIONS DURING THE CALENDAR YEAR 1971

(Compiled from figures supplied by the Registrar General)

CAUSE OF DEATH	Sex	Total at all ages	0-	1-	5-	15-	45-	65-	75+
	M	2,550	66	8	15	96	714	769	882
	F	2,675	39	15	3	69	365	582	1,602
Enteritis and other diarrhoeal diseases	M	1	1	—	—	—	—	—	—
	F	3	1	1	—	—	—	—	1
Tuberculosis of respiratory system	M	5	—	—	—	—	1	2	2
	F	—	—	—	—	—	—	—	—
Late effects of respiratory T.B.	M	1	—	—	—	—	—	—	1
	F	2	—	—	—	—	1	1	—
Other tuberculosis	M	1	—	—	—	1	—	—	—
	F	2	—	—	1	—	—	1	—
Syphilis and its sequelae	M	—	—	—	—	—	—	—	—
	F	1	—	—	—	—	—	—	1
Other infective and parasitic diseases	M	5	2	—	—	—	2	1	—
	F	6	—	1	—	1	3	1	—
Malignant neoplasm, buccal cavity, etc.	M	12	—	—	—	—	5	3	4
	F	3	—	—	—	1	—	1	1
Malignant neoplasm, oesophagus	M	26	—	—	—	—	10	13	3
	F	13	—	—	—	—	4	6	3
Malignant neoplasm, stomach	M	68	—	—	—	3	28	19	18
	F	57	—	—	—	2	6	24	25
Malignant neoplasm, intestine	M	65	—	—	—	3	22	24	16
	F	87	—	—	—	2	22	23	40
Malignant neoplasm, larynx	M	4	—	—	—	—	—	2	2
	F	1	—	—	—	1	—	—	—
Malignant neoplasm, lung, bronchus	M	219	—	—	—	2	82	105	30
	F	46	—	—	—	—	18	14	14
Malignant neoplasm, breast	M	—	—	—	—	—	—	—	—
	F	103	—	—	—	5	43	26	29
Malignant neoplasm, uterus	F	36	—	—	—	3	13	10	10
Malignant neoplasm, prostate	M	31	—	—	—	—	5	7	19
Leukaemia	M	13	—	—	2	1	6	1	3
	F	12	—	1	—	2	1	4	4
Other malignant neoplasms	M	149	2	—	2	8	49	47	41
	F	151	—	—	—	10	42	49	50
Benign and unspecified neoplasms	M	4	—	—	—	—	1	2	1
	F	8	—	—	—	2	3	2	1
Diabetes mellitus	M	13	—	—	—	1	2	4	6
	F	25	—	—	—	1	3	5	16
Avitaminoses, etc.	M	—	—	—	—	—	—	—	—
	F	1	—	—	—	—	—	1	—
Other endocrine etc. diseases	M	6	1	—	—	2	2	—	1
	F	12	—	—	—	—	3	4	5
Anaemias	M	5	—	—	—	—	—	2	3
	F	5	—	1	—	—	1	1	2
Mental disorders	M	4	—	—	—	—	1	—	3
	F	14	—	—	—	—	3	2	9
Meningitis	M	1	1	—	—	—	—	—	—
	F	2	1	—	—	—	—	—	1
Multiple sclerosis	M	1	—	—	—	—	—	1	—
	F	2	—	—	—	—	2	—	—
Other diseases of nervous system, etc.	M	23	1	1	—	6	5	5	5
	F	13	—	2	1	—	2	4	4
Chronic rheumatic heart disease	M	26	—	—	—	2	14	9	1
	F	27	—	—	—	1	10	8	8
Hypertensive disease	M	24	—	—	—	—	7	7	10
	F	51	—	—	—	—	3	11	37
Ischaemic heart disease	M	757	—	—	—	13	269	223	252
	F	604	—	—	—	6	57	141	400
Other forms of heart disease	M	93	1	—	1	2	18	14	57
	F	135	—	—	—	—	6	20	109
Cerebrovascular disease	M	273	—	—	—	1	47	90	135
	F	541	—	—	—	1	42	106	392
Other diseases of circulatory system	M	115	—	1	—	—	20	36	58
	F	167	—	—	—	2	11	31	123
Influenza	M	3	—	—	—	—	1	1	1
	F	5	—	—	—	—	2	1	2
Pneumonia	M	144	—	—	—	3	23	36	82
	F	191	3	1	—	—	11	24	152
Bronchitis and emphysema	M	183	—	—	—	—	45	67	71
	F	52	—	—	—	—	9	12	31
Asthma	M	5	—	—	—	3	2	—	—
	F	7	—	—	—	—	6	—	1

CAUSE OF DEATH	Sex	Total at all ages	0-	1-	5-	15-	45-	65-	75+
Other diseases of respiratory system	M	27	—	—	—	3	6	11	7
	F	13	1	—	—	2	1	—	9
Peptic ulcer	M	22	—	—	—	—	4	10	8
	F	16	—	—	—	—	1	3	12
Appendicitis	M	2	—	—	—	—	1	—	1
	F	4	—	—	—	—	1	1	2
Intestinal obstruction and hernia	M	2	1	—	—	—	—	1	—
	F	13	—	—	—	—	—	1	12
Cirrhosis of liver	M	4	—	—	—	—	1	1	2
	F	13	—	—	—	1	4	4	4
Other diseases of digestive system	M	19	—	1	—	1	5	5	7
	F	37	—	—	—	2	4	9	22
Nephritis and nephrosis	M	8	—	—	—	1	2	1	4
	F	15	—	—	—	1	5	4	5
Hyperplasia of prostate	M	6	—	—	—	—	—	2	4
Other diseases of genito-urinary system	M	13	—	—	—	2	4	4	3
	F	26	—	—	1	1	2	4	18
Diseases of skin, subcutaneous tissue	M	2	—	—	—	—	—	—	2
	F	3	—	—	—	—	—	—	3
Diseases of musculo-skeletal system	M	9	—	1	—	—	1	2	5
	F	19	—	—	—	—	4	2	13
Congenital Anomalies	M	18	15	1	—	1	—	1	—
	F	19	12	2	—	2	—	2	1
Birth injury, difficult labour, etc.	M	20	20	—	—	—	—	—	—
	F	8	8	—	—	—	—	—	—
Other causes of peri-natal mortality	M	16	16	—	—	—	—	—	—
	F	6	6	—	—	—	—	—	—
Symptoms and ill-defined conditions	M	5	4	—	—	—	—	—	1
	F	15	5	—	—	—	1	—	9
Motor vehicle accidents	M	29	—	—	5	15	5	1	3
	F	22	—	4	—	8	2	6	2
All other accidents	M	43	1	3	4	14	8	4	9
	F	43	2	2	—	7	4	10	18
Suicide and self-inflicted injuries	M	18	—	—	—	6	8	3	1
	F	15	—	—	—	5	7	2	1
All other external causes	M	7	—	—	1	2	2	2	—
	F	3	—	—	—	—	2	1	—

TABLE 2

CAUSES OF DEATH REGISTERED DURING THE CALENDAR YEAR 1971

(Compiled from figures supplied by the Registrar General)

Death Rate per million population	Cause of Death	No. of Deaths 1971	Percentage of total deaths
9	Enteritis and other diarrhoeal diseases	4	0·1
12	Tuberculosis of respiratory system	5	0·1
14	Other tuberculosis, including late effects	6	0·1
2	Syphilis and its sequelae	1	0·0
26	Other infective and parasitic diseases	11	0·2
35	Malignant neoplasm—buccal cavity etc.	15	0·3
92	Malignant neoplasm—oesophagus	39	0·7
293	Malignant neoplasm—stomach	125	2·4
357	Malignant neoplasm—intestine	152	2·9
12	Malignant neoplasm—larynx	5	0·1
622	Malignant neoplasm—lung, bronchus	265	5·1
242	Malignant neoplasm—breast	103	2·0
84	Malignant neoplasm—uterus	36	0·7
73	Malignant neoplasm—prostate	31	0·6
59	Leukaemia	25	0·5
704	Other malignant neoplasms	300	5·7
28	Benign and unspecified neoplasms	12	0·2
89	Diabetes mellitus	38	0·7
2	Avitaminoses	1	0·0
42	Other endocrine etc., diseases	18	0·3
23	Anaemias	10	0·2
42	Mental disorders	18	0·3
7	Meningitis	3	0·1
7	Multiple sclerosis	3	0·1
84	Other diseases of nervous system, etc.	36	0·7
124	Chronic rheumatic heart disease	53	1·0
176	Hypertensive disease	75	1·4
3,194	Ischaemic heart disease	1,361	26·0
535	Other forms of heart disease	228	4·4
1,910	Cerebrovascular disease	814	15·6
662	Other diseases of circulatory system	282	5·4
19	Influenza	8	0·2

Death Rate per million population	*Cause of Death*	*No. of Deaths 1971*	*Percentage of total deaths*
786	Pneumonia	335	6·4
551	Bronchitis and emphysema	235	4·5
28	Asthma	12	0·2
94	Other diseases of respiratory system	40	0·8
89	Peptic ulcer	38	0·7
14	Appendicitis	6	0·1
35	Intestinal obstruction and hernia	15	0·3
40	Cirrhosis of liver	17	0·3
131	Other diseases of digestive system	56	1·1
54	Nephritis and nephrosis	23	0·4
14	Hyperplasia of prostate	6	0·1
92	Other diseases of genito-urinary system	39	0·7
12	Diseases of skin, subcutaneous tissue	5	0·1
66	Diseases of musculo-skeletal system	28	0·5
87	Congenital anomalies	37	0·7
66	Birth injury, difficult labour, etc.	28	0·5
52	Other causes of perinatal mortality	22	0·4
47	Symptoms and ill-defined conditions	20	0·4
120	Motor vehicle accidents	51	1·0
202	All other accidents	86	1·6
77	Suicide and self-inflicted injuries	33	0·6
23	All other external causes	10	0·2
12,260	ALL CAUSES	5,225	99·7

NOTE: 0·0 denotes less than 0·05 per cent.

TABLE 3

INFANT MORTALITY (Local figures, corrected for transfers)

Cause of death	*Total 1971*	*First Day*	*From one day to under one week*	*From one week to under four weeks*	*Total under four weeks*	*Total from one month to under one year*
Enteritis and other diarrhoeal diseases	2	—	—	—	—	2
Other infective and *Parasitic diseases	2	—	2	—	2	—
Malignant neoplasms	1	—	—	—	—	1
Meningitis	1	—	—	—	—	1
Other forms of heart disease	1	—	—	—	—	1
Cerebrovascular disease	1	—	1	—	1	—
*Pneumonia	4	—	—	3	3	1
Intestinal obstruction and hernia	1	—	—	1	1	—
*Congenital Anomalies	24	7	6	6	19	5
*Birth injury, difficult labour and other anoxic and hypoxic conditions	28	18	9	1	28	—
*Other causes of perinatal mortality	18	11	5	2	18	—
All other accidents	2	—	—	—	—	2
Remainder of diseases of blood and blood forming organs	1	—	1	—	1	—
Diseases of the nervous system and sense organs	2	—	—	1	1	1
Other respiratory diseases	1	—	—	—	—	1
Symptoms and ill defined conditions	12	—	—	3	3	9
TOTALS	101	36	24	17	77	24
Rate per 1,000 live births (1971)	16·7	5·9	4·0	2·7	12·6	4·1

* Where there has been mention of prematurity 1971 ... 42
1970 ... 39
1969 ... 32
1968 ... 31

1971 infant deaths in: Hospitals ... 85 (includes 3 in hospitals outside Bristol)
Private nursing homes ... Nil
Private residences, ambulances etc. 16

TABLE 4

INFECTIOUS DISEASES NOTIFIED DURING 1971

NOTIFIABLE DISEASE	At all ages			Incidence by age groups (1971)							Incidence by quarters of 1971			
	1969	1970	1971	Under 1	1—4	5—14	15—24	25—44	45—64	65+	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Malaria	—	3	2	—	—	1	—	1	—	—	—	1	—	1
Scarlet Fever	176	87	99	2	31	57	8	6	1	—	30	25	10	34
Acute Encephalitis	1	25	17	—	—	6	4	6	1	—	2	5	6	4
Typhoid	—	3	—	—	—	—	—	—	—	—	—	—	—	—
Paratyphoid	3	2	—	—	—	—	—	—	—	—	—	—	—	—
Acute Meningitis	5*	10	11	3	2	2	2	1	1	—	4	3	2	2
Infective jaundice	217	696	126	—	7	47	28	25	16	3	40	38	23	25
Glandular fever	107	137	115	—	5	18	76	14	2	—	47	23	20	25
Dysentery	502	192	84	4	24	24	10	17	5	—	20	31	27	6
Food poisoning (Confirmed cases)	146	88	479	5	19	167	166	104	15	3	108	10	33	328
Measles	1,462	1,384	1,001	52	364	560	20	5	—	—	322	342	245	92
Rubella	912	433	1,256	41	305	695	129	83	3	—	234	513	383	126
Tetanus	—	—	1	—	—	1	—	—	—	—	—	1	—	—
Whooping cough	21	39	296	26	129	132	5	3	1	—	25	82	159	30
Ophthalmia neonatorum	3	5	4	4	—	—	—	—	—	—	1	—	—	3

* Meningoccocal Meningitis only

TABLE 5

TUBERCULOSIS NOTIFICATIONS

	Sex	CASES At All Ages	Under one	1–	5–	10–	15–	20–	25–	35–	45–	55–	65 and over
1971 :													
Pulmonary Tuberculosis													
New notifications	M	48	—	—	1	2	2	4	3	11	6	11	8
	F	24	1	—	2	1	2	1	4	2	4	4	3
Transfers from other areas	M	6	—	—	—	—	—	1	—	4	—	—	1
	F	1	—	—	—	—	—	—	—	1	—	—	—
Deaths mentioning TB not otherwise notified	M	1	—	—	—	—	—	—	—	—	—	—	1
	F	2	—	—	—	—	—	—	—	—	—	—	2
Non-pulmonary Tuberculosis													
New notifications	M	8	—	—	—	1	—	1	3	2	1	—	—
	F	9	—	2	—	1	2	1	—	3	—	—	—
Transfers from other areas	M	2	—	—	—	—	—	—	2	—	—	—	—
	F	2	—	—	—	—	—	—	—	—	—	—	2
Deaths mentioning TB not otherwise notified	M	1	—	—	—	—	—	—	—	1	—	—	—
	F	—	—	—	—	—	—	—	—	—	—	—	—
New Notifications—													
Pulmonary—													
1970	M	47	—	1	2	1	2	2	2	10	12	7	8
	F	16	1	—	—	1	—	1	2	4	2	2	3
1969	M	41	—	—	—	—	3	2	4	9	8	6	9
	F	19	—	2	—	—	1	2	5	2	4	—	3
1968	M	53	1	3	—	—	3	4	6	7	9	10	10
	F	25	—	—	—	2	1	2	6	3	8	2	1
1967	M	42	—	—	3	1	2	2	8	7	1	6	12
	F	26	—	2	1	1	5	1	4	4	3	2	3
1966	M	47	—	—	—	—	—	4	5	7	10	11	10
	F	29	—	—	—	1	1	7	5	3	3	6	3
Non-Pulmonary—													
1970	M	7	—	1	—	—	—	1	3	1	—	1	—
	F	7	—	—	—	—	2	1	2	1	—	—	1
1969	M	10	—	—	—	—	1	1	4	2	1	1	—
	F	7	—	—	—	2	—	—	2	1	—	1	1
1968	M	5	—	—	1	—	—	1	2	—	—	1	—
	F	6	—	—	—	—	—	—	3	2	1	—	—
1967	M	7	—	1	1	—	—	—	1	2	1	1	—
	F	8	—	—	—	—	—	—	4	2	—	—	2
1966	M	3	—	—	—	—	—	—	—	—	2	1	—
	F	10	—	—	—	—	—	1	4	2	—	3	—

TABLE 6

ANALYSIS OF IMMUNOLOGICAL PROCEDURES COMPLETED DURING 1970/71

	1970					1971				
	Under 5 yrs.	*5–15 yrs.*	*Total under 16 yrs.*	*Administered by Local Auth'y.*	*G.P.*	*Under 5 yrs.*	*5–15 yrs.*	*Total under 16 yrs.*	*Administered by Local Auth'y.*	*G.P.*
Diphtheria (whether combined with other or not)										
Completed Courses	6,553	168	6,721	4,208	2,513	6,168	197	6,365	3,932	2,433
Booster Doses	4,970	3,341	8,311	4,892	3,419	4,562	3,596	8,158	4,606	3,552
Whooping Cough (combined or not)										
Completed Courses	6,357	76	6,433	4,061	2,372	5,985	104	6,089	3,810	2,279
Booster Doses	3,957	1,002	4,959	2,895	2,064	3,465	974	4,439	2,553	1,886
Tetanus (combined or not)										
Completed Courses	6,565	1,035	7,600	4,957	2,643	6,218	513	6,731	3,945	2,786
Booster Doses	5,002	3,698	8,700	4,928	3,772	4,605	3,996	8,601	4,650	3,951
Poliomyelitis										
Completed Courses	6,122	257	6,379	4,079	2,300	5,912	217	6,129	3,756	2,373
Booster Doses	4,527	3,207	7,734	4,447	3,287	4,261	3,521	7,782	4,404	3,378
Measles	8,464	571	9,035	6,484	2,551	3,946	356	4,302	2,502	1,800
Rubella	—	1,439	1,439	1,439	—	—	—	2,994	2,979	15

	1970							1971						
	Under 1 yr.	*One yr.*	*2–4 yrs.*	*5–15 yrs.*	*Total under 16 yrs.*	*Administered by L.A.*	*G.P.*	*Under 1 yr.*	*One yr.*	*2–4 yrs.*	*5–15 yrs.*	*Total under 16 yrs.*	*Administered by L.A.*	*G.P.*
Smallpox														
Primary	49	2,366	1,042	449	3,906	1,754	2,152	56	1,254	723	243	2,276	1,092	1,184
Revacc.	—	17	209	951	1,177	112	1,065	—	12	68	482	562	11	551

Population

The population at census was 425,203, and the estimated mid-year population (on which the various rates for the city are based) was 426,170. The trends in the population of Bristol over recent years are shown in Figure 1. The peak year for population was 1954, when 444,900 persons were estimated to be living here; since then there has been a gradual decline to the present level.

The death rate has remained fairly steady over the years. The adjusted rate, published in annual reports since 1965, has shown a very slight tendency to rise, and at 12·2 per thousand is marginally above the rate for England and Wales. (The adjusted rate takes into account change in the age and sex structure of the population and is more suitable than the crude rate for purposes of comparison from one year to the next.)

The birth rate has fluctuated considerably. The changes are also plotted on Figure 1. The rise which occurred during and after the war years was followed by a sharp decline, which extended into the mid-fifties. There followed a steady increase in the rate until 1965, since when it has again fallen. Table 7 shows the crude and adjusted rates for Bristol, and compares them with the rates for England and Wales. It can be seen that the adjusted Bristol rate is close to, though a little lower than, that for England and Wales.

Table 7. Comparison of Bristol birth rates with those of England and Wales 1965—71

	Birth rate, Bristol		*Birth rate*
Year	*Crude*	*Adjusted*	*England and Wales*
1965	17·6	18·1	18·1
1966	17·0	17·5	17·7
1967	16·3	16·8	17·2
1968	15·7	16·2	16·9
1969	15·1	15·6	16·3
1970	14·7	15·1	15·5
1971	14·8	15·2	16·0

The infant mortality rate in Bristol has been falling over the years, as has that for the country generally (Figure 2). However, the fall in the Bristol rate appeared to cease between 1951 and 1963, and since the latter year, although there has been some further fall, it has behaved somewhat erratically. Since the rate for England and Wales has continued to fall during this time, the present situation is that the Bristol rate is closely similar to that for England and Wales, and on two occasions (1965 and 1970) it has been the greater of the two.

Most infant loss occurs in the very early days of life. Thus of the 104 infant deaths reported this year, 79 (75·9%) occurred within four weeks of birth. Most of these were caused by difficulties at or around birth (Table 8).

Table 8. Principal causes of neonatal deaths in 1971

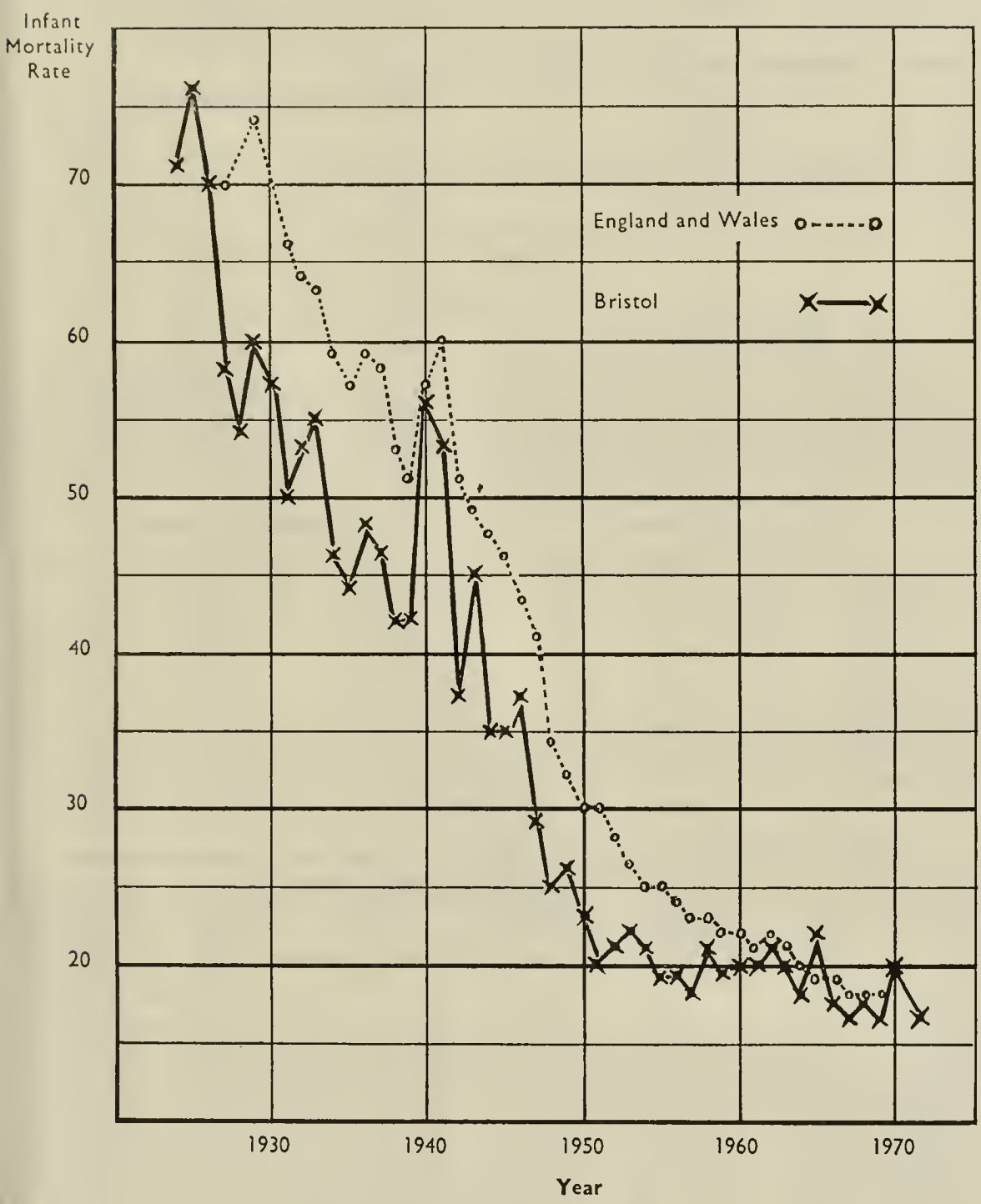
Causes	*Number of deaths*	*Percentage of all neonatal deaths*
Birth injury, difficult labour, other anoxic and hypoxic conditions	28	37
Congenital malformations	19	25
Immaturity	9	11
Pneumonia	3	4
Various other causes	18	23
	77	100

Figure 1.

Population estimates and birth rates.
Bristol C.B. 1924—1971

Figure 2.

Infant mortality rates, Bristol C.B., 1924—1971 compared with the corresponding rates for England and Wales



GENERAL MORTALITY

Heart disease accounted for 35·8 per cent of deaths this year. Included were 1,361 deaths due to ischaemic heart disease, which remains the greatest single cause of death in the city. Malignant neoplasms (1,096 deaths) represented 21·0 per cent of total deaths, and were the second most important cause. This group included 265 deaths from lung cancer.

There were 168 deaths of Bristol residents from violence; the breakdown of these is shown in Table 9.

Table 9. Deaths of Bristol citizens caused by violence in 1971

Deaths in Bristol	*Males*	*Females*	*Persons*
Homicide	1	—	1
Suicide	18	13	31
Road traffic accidents ...	13	9	22
Home accidents	12	19	31
Industrial accidents	4	—	4
Other violence	15	14	29
	63	55	118
Deaths outside Bristol	31	19	50
Total Bristolian deaths ...	94	74	168

Suicide statistics are given in more detail in Table 10. The figures are closely similar to those for previous years. They include two inward transfers. Since the year of occurrence is not always the same as the year of registration, the discerning may note differences between some mortality figures given here and those of the Registrar General in Tables 1 and 2.

Table 10. Bristol deaths due to suicide, 1971

Age and sex distribution

	Males	*Females*	*Persons*
15—19	1	—	1
20—29	3	2	5
30—39	1	1	2
40—49	2	3	5
50—59	4	4	8
60—69	5	2	7
70—79	2	3	5
80 plus	—	—	—
Totals	18	15	33

Distribution by method

	Males	*Females*	*Persons*
Aspirin	2	—	2
Barbiturate/ narcotic	4	9	13
Other drug	1	—	1
Domestic gas	1	1	2
Other CO gas	1	1	2
Fall	3	1	4
Drowning	1	2	3
Hanging	2	1	3
Other	3	—	3

ANNUAL REGISTER OF PATIENTS EXCRETING RESISTANT TUBERCLE BACILLI IN THE BRISTOL CLINICAL AREA (1957—1971)

Year	*New cases in year*	**as on 31st December 1971** *Resistance* *Primary*	*Secondary*	*Dead*	*Quiescent*	*Transferred*	*Alive and active*	*Number on Register on 31st December each year*
1957	44	10	34	23	12	9	—	44—1957
1958	31	3	28	17	12	2	—	36—1958
1959	29	4	25	8	21	—	—	32—1959
1960	16	1	15	8	5	3	—	35—1960
1961	20	2	18	6	12	2	—	45—1961
1962	15	3	12	4	10	1	—	30—1962
1963	13	2	11	2	8	3	—	27—1963
1964	10	2	8	3	5	2	—	21—1964
1965	15	5	10	2	12	1	—	26—1965
1966	13	—	13	6	5	3	1	24—1966
1967	8	1	7	1	2	2	—	15—1967
1968	11	2	9	3	7	1	—	12—1968
1969	10	6	4	—	9	1	—	15—1969
1970	10	—	10	3	5	1	1	6—1970
1971	5	1	4	1	—	—	4	6—1971

NOTES:
1. Of *240* patients found to have Resistant Tubercle Bacilli between 1957 and 1970 two are still alive and had a positive resistance culture in 1970.
2. *5* new cases occurred in 1971, *1* of whom is already dead. The number of active cases on the register therefore remains at *6*.
3. Of the *6* cases, *1* is resistant to the *3* standard drugs, *2* to *2* drugs and *3* to only *1* drug.

INFECTIOUS DISEASES DUE TO BACTERIA

Tuberculosis

This year a total of 89 new notifications, 72 of pulmonary tuberculosis and 17 of non-pulmonary, were received. There was thus a slight increase on the numbers of new notifications in 1970 (Table 5).

The following table shows details of cases occurring in persons under 20, cases which are particularly significant as indicators of active sources of infection.

Notifications of tuberculosis in persons aged less than 20 years

	0–	*5–*	*10–*	*15–19*	*Total*
Pulmonary 1971	1	3	3	4	11
Non-pulmonary 1971 ...	2	—	2	2	6
Totals 1971	3	3	5	6	17

The 11 pulmonary cases reported in young persons this year represent 15% of all new pulmonary cases notified. This again is a slight increase on the figure for previous years:

Pulmonary tuberculosis

	Notifications		*Percentage*
Year	*Total*	*Under 20*	*under 20*
1968	78	9	11·5
1969	60	6	10·0
1970	63	8	12·7
1971	72	11	15·3

A source of infection had been found in four of these cases by the end of the year. In two, both under 5, the source of infection lay within their immediate family and the source of infection of two others was found at school—in both cases in a member of the staff. In four other cases, investigations were not complete by the end of the year, and in three cases, two of whom were recent immigrants, the source of infection was not traced.

Scarlet fever

Ninety-nine cases were reported. This was a relatively quiet year, with a particularly low incidence in the summer months, but a slight increase in the incidence from late October onwards.

Whooping cough

After two quiet years for notifications of whooping cough a marked rise occurred which persisted from April through to September. A total of 296 cases were notified with 240 during this epidemic period. The immunisation state of these cases was reviewed to see if the injections were giving adequate protection. In children under two years of age the disease only rarely occurred in those who had had the full course of three injections. By the age of three the immunity was beginning to wane although 90% of these children still appeared to be protected. Fortunately the disease was mild and no deaths were reported. Very few infants were affected whilst the toddlers and primary school children had the highest attack rates.*

One of the main aims of immunisation against whooping cough is to reduce the number of deaths which may occur in children under one year of age. At the same time there is a persisting protection for a few years which will reduce the number of toddlers who get the illness and thus still further lower the risks for the infant group. In Bristol this year 89% of children had received

* Reynolds, M.R.F., Community Medicine 1971: Vol. 127. Pages 103–104.

a full course of three injections before the age of two. Even with this high acceptance rate small epidemics are occurring and every effort must be made to maintain adequate protection amongst infants.

Acute bacterial meningitis

The number of cases reported in 1971 (6) was low. The organisms involved were: meningococcus 4, pneumococcus 1 (died), Haemophilus influenzae 1. There were also 5 cases of acute meningitis associated with virus infections (see page 29).

Gastro-intestinal infections due to bacteria

Dysentery

This has proved to be a remarkably quiet year. Only 84 cases were notified (1970, 192). Examination of reports from years past reveals that there has not been a lower number of notifications since 1949, although 1957, with 88 notifications, came very near.

Food poisoning

Three large outbreaks of food poisoning have greatly increased the total notifications this year. A shepherd's pie and a beef stew were the suspected sources of two school incidents. 87 persons were affected in the first and about 300 in the second. For most of those affected the symptoms were mild and only a minor inconvenience. The food preparation was probably responsible as the organism most likely to have been the cause (Clostridium welchii) would normally not be able to survive cooking if a satisfactory method is used. In both schools the food was first cooked the day before it was needed and then reheated just before serving.

Out of a group of 52 who spent an evening at a hotel playing a skittles match, 14 subsequently suffered from a salmonella isangi infection. Some were ill for several days and one was admitted to hospital and made satisfactory recovery. The portions of cold chicken which were included in the cold buffet seemed the most likely source of infection but no food was available for examination due to the late notification of the illness.

Apart from these incidents salmonella infections due to 23 different serotypes were found in 81 isolated or family cases. Staphylococcal toxin was suspected as the reason for one man's violent illness after eating out.

Salmonella isolated in Bristol 1971

Salmonella	typhimurium	22
,,	panama	16
,,	bovis morbificans	12
,,	isangi	10
,,	enteritidis	5
,,	heidelberg	4
,,	anatum	2
,,	thompson	2
,,	blockley	2
,,	derby	2
,,	bredeney	2
Others*		12
		91

* One each of S. indiana, S. cholera suis, S. montevideo, S. coeln, S. agama, S. umbilo, S. eimsbuettel, S. virchow, S. infantis, S. ohio, S. dublin, S. st. paul.

No cases of *typhoid fever or paratyphoid fever* were reported during 1971.

INFECTIOUS DISEASES DUE TO VIRUSES

Influenza

1971 was a quiet year as far as the influenza virus was concerned. After the outbreak over the winter of 1969–70 no further outbreaks of any magnitude occurred. Influenza 'B' virus was, however, isolated from a number of children during March. There was a single death attributed to influenza in December.

Measles

There were 1,001 notified cases in 1971; this figure may be compared with the 1,384 notifications in 1970, and 1,462 in 1969. The incidence of measles showed a sharp decline in 1968, but has fallen only slowly since then, (Figure 3). Measles vaccine came into general use in Bristol in 1967, and the slow progress in preventing this disease is disappointing. It must be realised, however, that a very high proportion of children have to be protected before transmission is effectively interrupted. Sutherland has estimated that a vaccination rate of 80 to 90 per cent of the children born each year is needed to achieve this. In the younger age groups, Bristol is approaching this degree of coverage, as is reported in the section on measles vaccination. It is of interest therefore to examine the measles attack rates in children of various ages. The situation at the end of 1971 is shown in Table 12 where it is compared with the corresponding figures for 1970.

Figure 3.

Measles Notifications. Bristol C.B., 1965–71

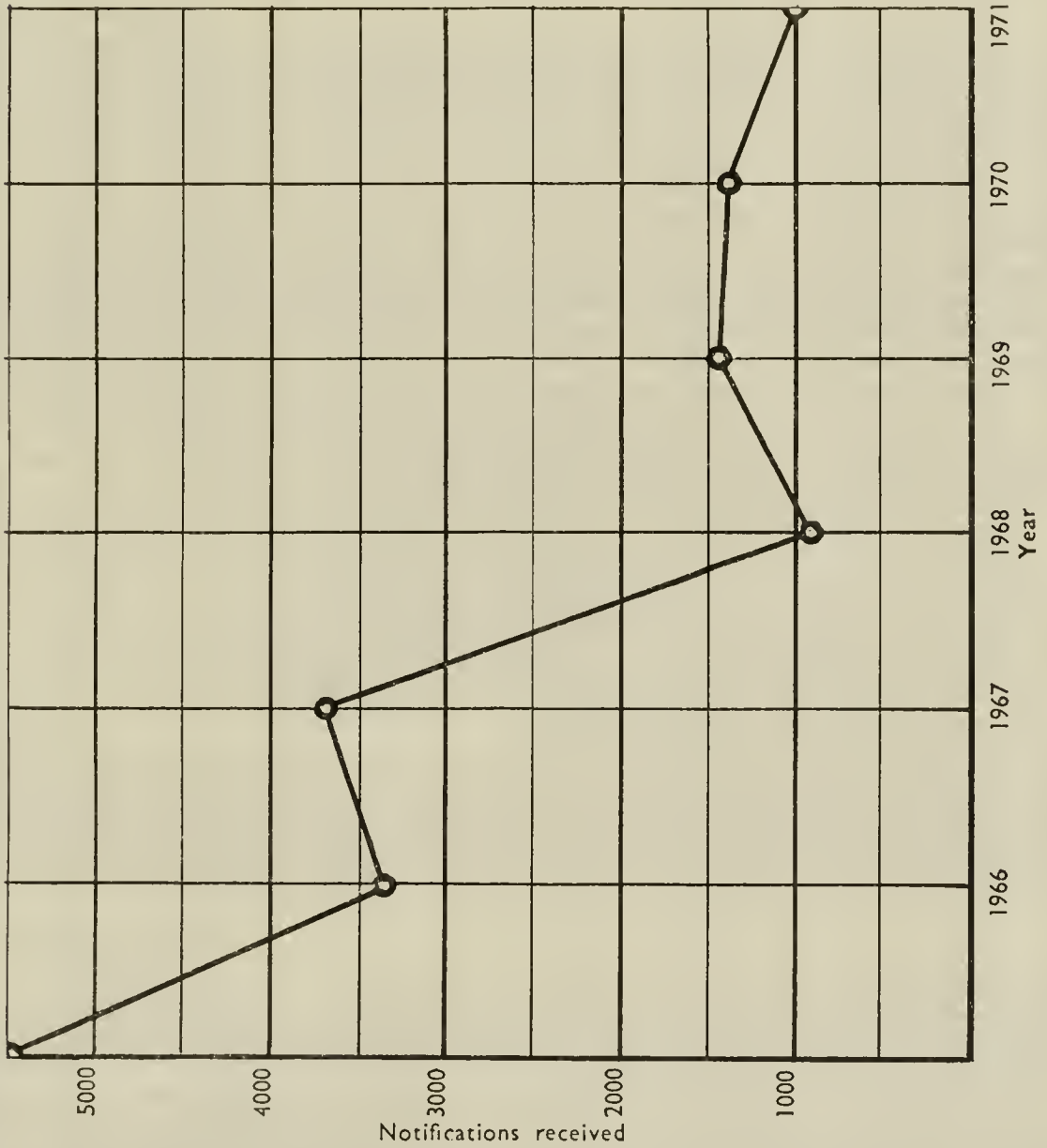


Table 12. Measles notifications during 1971, and attack rates per 1,000 by year of birth, compared with corresponding attack rates in 1970

Year of birth	*No. of children*	*Measles notifications 1971*	*Attack rates per 1000*	
			1971	*1970*
1971	6,350	19	3	—
1970	6,256	81	13	4
1969	6,426	58	9	24
1968	6,731	75	11	25
1967	7,003	99	14	26
1966	7,301	158	22	28
1965	7,600	219	29	32
1964	7,517	124	16	30
1963	7,640	70	9	13
1962	7,249	29	4	3

The figures in this table can only be regarded as approximations to the truth, since they are based on birth cohorts, which do not necessarily represent the number of children born that year still resident in Bristol, and notifications of meales, which are notoriously deficient. However, they do permit a broadly based comparison, which it is believed would reveal any marked trend in attack rates in specified age groups over the years.

Rubella

There were 1,256 notifications in 1971, compared with the 433 received in 1970. Most of the cases occurred between April and August. Although rubella vaccine came into use towards the end of 1970, and continued during the present year, it is not expected to have any noticeable impact on notification rates, since most cases occur in children, and the vaccine is given only to girls near the time of puberty.

It is to be hoped however, that in the next few years there will be a fall in the incidence, already low, in young adult females. This is the group at which the protective effects of the vaccine are aimed, in order to prevent the occurrence of rubella during pregnancy, with the attendant anxieties about the welfare of the unborn child.

Now that serological testing for rubella antibodies has become available, it has become possible to be more precise as to whether a young mother is susceptible to rubella in the first instance, and if so, whether infection has occurred in suspected cases. The serological work is carried out by the Public Health Laboratory at Myrtle Road, Kingsdown, and I am indebted to the Director, Dr. H. R. Cayton, for the following comments on developments in 1971 :

The samples of blood examined for rubella antibodies numbered 3,070, of which number 1,610 were samples from pregnant women with a history of exposure to suspected rubella. The other group (1,460) was composed mainly of women who were at risk, largely on account of their occupation, e.g. nurses and school-teachers.

Comparatively few of the Bristol women are as yet being tested. More than two-thirds of the samples are reaching us from the areas beyond the city. Arrangements have been made to test all the women attending the Bristol antenatal clinics and to keep records. The results of these tests will prevent much needless anxiety in the 80% of immune mothers. Immunisation can be offered to susceptible women at the proper time. Eventually valuable data will be available for analysis and the duration of vaccine-induced antibody determined.

Infective jaundice

There were 126 notifications of infective jaundice in 1971. This is the smallest number recorded since 1963 (112 notifications). Cases occurred sporadically all over the City, and no recognisable foci of infection developed.

The number of cases this year represents an attack rate, city wide, of 0·3 per thousand. Attack rates within wards were thus almost exclusively below 0·5 per thousand, so that the usual visual presentation of the incidence of the disease by means of a ward map is not justified. The only wards which exceeded 0·5 cases per thousand population were Easton (1·03), Henbury (0·51) and Southmead (0·52). Other wards with *relatively* high rates were Brislington (0·46) and Clifton (0·41).

Acute viral meningitis and encephalitis

Five cases of acute viral meningitis and 16 cases of acute viral encephalitis were notified during 1971. There was, in addition, one case of post-infectious encephalitis attributed to mumps. The age and seasonal distribution of these 22 cases is summarised below:

Age distribution

Age group	*No. cases*
0—9	6
10—19	4
20—29	3
30—39	6
40 plus	3

Seasonal distribution

First quarter	3 cases
Second „	8 cases
Third „	8 cases
Fourth „	3 cases

Viruses were isolated in 7 of these cases and included Echo 4 (3 cases), Echo 6, Coxsachie B5, herpes simplex and mumps.

OTHER CONDITIONS

Scabies

More reports of scabies were received during 1971 than in previous years, although it is not possible to say whether this was due to better reporting or to a real increase in incidence. Although the condition is not officially notifiable, doctors are encouraged to report the occurrence of cases to health visitors or district nurses who, in their turn, make a report to the central office. Contact tracing and follow up are then organised with the help of health visitors. Every effort is made to ensure that all close contacts are traced and treated even though they may not have developed symptoms. Although attempts to identify the source of infestation are made, it is only comparatively rarely that this enquiry is successful. All identified contacts who might have a rash are traced and interviewed, and occasionally treatment is found to be necessary.

The vast majority of cases reported to the department are receiving treatment with gamma benzene hexachloride cream. There has been evidence of resistance to this treatment in one family, where relapse occurred twice, in spite of apparently complete treatment.

The basic statistics for the year were:

Number of family infestations reported	...	71
Number of individual infestations reported	...	2
Sources of reports		
From general practitioners		
(a) Through hospital O.P.Ds.	...	4
(b) Direct, or through H.Vs.	...	30
From school clinics or inspections	...	14
From clinics (spontaneous attendance)	...	10
From health visitors or district nurses	...	7
Others (including two not recorded)	...	8

Malaria

Two cases were notified this year. The first was in a seaman who was admitted to Ham Green Hospital from Avonmouth Docks. He had had a raised temperature for 5 days previously. The second case was in a young lady who had been teaching in New Guinea. Plasmodium vivax was isolated by the hospital and accounted for her mild illness. Both patients responded well to treatment.

IMMUNISATION 1971

It is encouraging to note the continuing rise in the acceptance of the primary course of injections in infancy. Of those children born in 1970, 90% had been protected against diphtheria and tetanus by the end of 1971. The figure for whooping cough (89%) is slightly lower as some children are not offered this vaccine for specific medical reasons. Oral polio immunisation has always lagged behind the others but has now reached 87% which is an increase of 6% over last year.

Under the present schedule it is recommended that booster injections and polio drops are given during the second year of life and at school entry. This prolongs the immunity through the school years. At present 55% of children have the first booster and 50% also have the second. There is no doubt of the value of continuing protection for school children as the risks of

getting tetanus, diphtheria and polio are still present. Perhaps future years will see an increase in the uptake of these procedures.

Smallpox vaccination

This year saw a major change in the policy with regard to routine smallpox vaccination. Since 1948 all children have been considered for vaccination before school entry and more recently this was recommended for the second year of life. Mass eradication campaigns by the World Health Organisation have dramatically reduced the incidence of this disease in many countries. As a result the chances of introducing smallpox into Britain have diminished. Vaccination is not without complications and there have been critics who, for several years, have questioned the wisdom of potentially creating more illness than was being prevented.

In July the Department of Health and Social Security advised all doctors that they were no longer recommending vaccination as a routine during childhood. Bristol implemented this revision immediately and over the last few months of the year many family doctors have followed suit. Travellers to some foreign countries still require vaccination and health service staff and port staff are strongly advised to maintain adequate protection.

This change reflects an important step in the control of a disease which has always evoked a strong emotional response. A close watch will be kept on future developments to ensure that the present trend is not reversed.

Measles immunisation

In April a special campaign was mounted to offer measles injections to children born in 1966, thus supplementing the campaigns in the autumn of 1970. The effects of these campaigns, in conjunction with routine immunisation, has been to substantially increase the number of children who now have protection against measles. Only a small proportion of those under four years of age have had the disease and an increasing number have gained their immunity through the injection.

MEASLES PROTECTION — as at 31st December, 1971

Year of birth	*% who have had measles*	*% who have had injection*	*Total % protected*
1970	3	44	47
1969	5	73	78
1968	7	65	72
1967	11	61	72
1966	20	50	70

The protection in the 1970 born children is disappointing but may, in part, be due to the fact that they were too young to benefit from the campaigns. It was hoped that this would be compensated by an increase in routine immunisations but this has not yet occurred. Only 4,856 measles injections were given this year compared with 9,035 in 1970. This represents a fall in routine immunisations in addition to the absence of a major campaign. It seems likely that campaigns will have to be carried out every few years to maintain an adequate level of protection.

German Measles immunisation

This injection was introduced in Bristol in 1970 and this year a team has again visited secondary schools. The Local Authority can offer the procedure only to girls aged between eleven and fourteen years and all other age groups have to be referred to their family doctor. For convenience each campaign is aimed at the second year girls, as their ages range between 12½ and 13½ years.

The average acceptance over the first two campaigns has been 77% with a further ½% going to their family doctor for the injection.

Foreign Travel Clinic

Since 1960 the Local Authority has had the responsibility of providing a yellow fever vaccination centre for travellers. The nearest alternative centres are at Gloucester and Taunton, so the Bristol clinic draws clients from the City and surrounding counties. From 1962 additional injections have been offered to those people who could not get these done by their family doctors. This department has now given ten years of this service and a review of the demand engendered reflects the fluctuations in international disease control.

Yellow fever is a disease normally confined to Central Africa and South America. From 1961 to 1969 an average of 1,000 people have requested this injection each year. Last year 1,295 injections were given and this year's total has been the highest ever at 1,564. Of these, 39% were given to travellers going for business reasons and 43% to holidaymakers. The importation of smallpox into Great Britain in 1962 and 1966 created a large demand from the public which has not been repeated recently. The world incidence has been greatly reduced over the last four years and this has decreased the likelihood of unexpected cases in England. (See the section on routine smallpox vaccination.)

Typhoid and paratyphoid fever are constantly present in all southern European countries and beyond. Protection is always advisable but it is usually only after press publicity that the demand increases. In 1969 there were several outbreaks at holiday resorts on the continent and special sessions were needed to cater for a last-minute rush for injections.

Cholera

Throughout 1970 and 1971 cholera has spread to several African countries and, for a short time, to Spain and Portugal. In addition an increase of cases in India and Pakistan reduced vaccine supplies available through the usual channels. Family doctors were unable to obtain vaccine for several months and many people were referred to our clinic. Some travellers only had short notice of the need for the injections so they could not complete the course. A total of 1,577 persons had the initial procedure at the clinic but only 551 were able to return for the final dose. Those family doctors who had the vaccine gave injections to a further 3,431 travellers.

The department was also involved in tracing and visiting those who had returned from an infected area but who had not received these injections. Between September 17th and October 12th 970 people were followed up in Bristol for six days to ensure that they had not contracted the disease. No cases of cholera were discovered but a number of salmonella infections were reported amongst those with symptoms.

Doctors on the port health staff met aircraft arriving from infected areas to check international vaccination certificates or refer unprotected individuals to the appropriate medical officer of health for surveillance. During the period nearly 20 aircraft were met and 2,410 persons who required surveillance were identified.

Inoculations given 1971 (completed courses only)

Yellow Fever	1,564
T.A.B.T.	351
Smallpox	618
Cholera	551*
Typhus	35

* See text for full explanation of cholera injections

The reasons given for foreign travel have remained remarkably constant over the ten year period.

Reasons for going abroad 1971

Holiday	59%
Business	26%
Emigration	8%
Other	7%

There has been a gradual but continuing rise in the proportion travelling by air. This has now reached 80% compared with only 43% in 1963.

Clients are referred to our clinic by several routes. Almost a half contact us direct and a further quarter are sent by their family doctor. The rest come through such sources as employers, travel agents, shipping agents or the services. 441 children and staff were given injections in school before continental holidays.

Research

Investigations of the prevalence and effects of hay fever in secondary school children continued during the year at four Bristol comprehensive schools. Records were kept by affected children during the summer term, and in parallel with this the daily pollen count was measured using the Hirst spore trap placed on the roof of the Children's Hospital. This research will be continued into 1972.

LONG ASHTON RESEARCH STATION

METEOROLOGICAL RECORDS 1971

	Air Temperature (°C)							*Rainfall (millimetres)*			*Sunshine (hours)*		*Soil Temperature at 0900 G.M.T. (°C)*		
	Means		*Means*	*Diff.*	*Highest*	*Lowest*	*No. of*		*Percent*	*Most*		*Percent*			
	A Max.	*B Min.*	*of A & B*	*from normal*	*Max.*	*Min.*	*ground frosts*	*Total*	*of Average*	*in a day*	*Daily Mean*	*of Average*	*10 cm (4″)*	*20 cm (8″)*	*50 cm (24″)*
January ...	7·7	2·8	5·3	+0·8	14·0	—4·9	14	163·4	196	23·0	1·07	69	3·5	4·2	5·1
February ...	8·1	1·3	4·7	0	11·3	—4·2	17	21·0	33	7·0	2·79	105	3·1	4·0	5·3
March ...	8·7	1·8	5·3	—1·2	12·0	—7·9	15	64·6	113	20·4	3·23	83	4·1	5·0	6·1
April	12·3	3·9	8·1	—0·6	20·4	—2·0	11	73·5	128	33·1	4·65	89	6·3	7·6	8·8
May	17·1	7·0	12·1	+0·4	22·1	—1·1	6	31·8	49	9·1	8·15	131	13·1	12·8	13·1
June	16·8	9·2	13·0	—1·8	22·3	4·1	0	158·2	283	57·1	5·21	74	14·2	14·2	14·8
July	22·9	11·8	17·4	+1·1	29·0	6·0	0	31·8	40	14·0	8·95	145	19·4	19·1	18·6
August ...	19·9	11·9	15·9	—0·2	23·8	6·3	0	129·1	144	22·0	4·24	73	16·1*	16·1*	17·7
September ...	20·2	9·8	15·0	+0·9	24·7	4·2	0	20·8	25	12·8	6·43	141	14·7	15·1	16·6
October ...	16·2	7·3	11·7	+0·9	22·8	0·6	4	147·2	156	53·8	4·71	147	10·8	11·6	13·7
November ...	10·6	2·2	6·4	—0·7	16·6	—4·1	17	70·5	77	16·1	3·66	190	6·1	6·3	8·9
December ...	9·2	4·5	6·8	+1·6	13·4	—1·7	9	45·7	49	17·3	1·07	71	6·0	6·6	7·6
Totals or Means	14·1	6·1	10·1	0	—	—	93	957·6	105	—	4·50	109	9·8	10·2	11·4

* Mean of 27 days

VENEREAL DISEASES

A. E. Tinkler, M.A., M.D., D.P.H.
(Consultant Venereologist South Western Regional Hospital Board)

In 1971 there was again a marked increase (15%) in the numbers of new cases seen at the Bristol Venereal Diseases Clinics.

TABLE I

NEW CASES— ALL CONDITIONS, 1969—71
BRISTOL VENEREAL DISEASE CLINICS

Year	*All Cases*	*Bristol Residents*
1969	5,624	4,830
1970	7,374	5,624
1971	8,471	6,575

SYPHILIS

The incidence of this disease remains low in the city. A total of 50 cases were seen during the year. Of these 40 were City residents of whom 20 were in the early infectious stages of the disease.

TABLE 2

NUMBER OF CASES OF SYPHILIS SEEN AT BRISTOL CLINICS
1969—71

	All Cases				*Bristol Residents*			
Year	*Early Syphilis*	*Late Syphilis*	*Congenital Syphilis*	*Total*	*Early Syphilis*	*Late Syphilis*	*Congenital Syphilis*	*Total*
1969	14	18	3	35	12	7	1	20
1970	15	17	2	24	5	16	2	23
1971	23	26	1	50	20	19	1	40

GONORRHOEA

The incidence of this disease continues its inexorable and alarming rise in the country as a whole, but the increase in Bristol in 1971 showed only a moderate rise over the previous year.

TABLE 3

INCIDENCE OF GONORRHOEA
BRISTOL CLINICS, 1955, 1965, 1969, 1970 and 1971

Year	*Male*	*Female*	*Total*
1955	236	45	281
1965	543	337	880
1969	872	611	1,483
1970	983	734	1,717
1971	1,047	687	1,734

The disproportionate increase in female cases which has been a feature of the national incidence for some years was not apparent in Bristol in 1971. The number of young persons requiring treatment continues to give rise to concern although there was a slight fall in the proportion of teenagers requiring treatment in 1971 as compared with the previous year.

TABLE 4

GONORRHOEA, MAUDLIN STREET CLINIC, BRISTOL
PERCENTAGE OF PATIENTS UNDER 20 YEARS 1969—71

Year	*Male* %	*Female* %
1969	11·0	32·0
1970	14·0	39·5
1971	14·2	31·2

The actual number of patients under 20 years treated for gonorrhoea in the Maudlin Street Clinic, Bristol, is given in Table 5.

TABLE 5

GONORRHOEA, MAUDLIN STREET CLINIC
AGE ANALYSIS, 1969, 1970 and 1971

	Under 16 years		*16 and 17 years*		*18 and 19 years*		*Total under 20 years*	
Year	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
1969	1	16	14	74	77	99	92	189
1970	6	28	26	91	107	112	139	231
1971	10	23	42	76	97	116	149	215

HEALTH CENTRE DEVELOPMENT

F. J. Jones D.P.A.

(Deputy Chief Administrative Officer)

At the end of 1971 seven health centres were opened and functioning. They were

William Budd	—	opened 1952	14,000	patients	10	doctors
St. George	—	opened 1964	20,600	,,	8	,,
Stockwood	—	opened 1967	9,300	,,	8	,,
Southmead	—	opened 1969	13,600	,,	7	,,
St. Johns Lane	—	opened June 1970	14,500	,,	10	,,
Horfield	—	opened Dec. 1970	13,000	,,	6	,,
Fishponds	—	opened Sept. 1971	13,000	,,	10	,,

This means that some 98,000 persons in Bristol were able to see their doctors (53 of them) in health centres. Already two practices totalling six doctors are each working in two health centres.

Alterations and extensions to Charlotte Keel Clinic prior to its redesignation as a health centre were well advanced, and it is anticipated that the premises will be completed and ready for full health centre operation in April 1972. Four practices totalling seven doctors with some 16,000 patients at risk will practise from this centre.

Preliminary sketch plans for a health centre in the Barrow Road area had also been agreed by the Department of Health and Social Security and a private architect was actively engaged on the preparation of working drawings and estimated costs. This centre is expected to accommodate three practices totalling seven doctors with some 12,000 patients at risk.

Sketch plans for a new health centre in Whatley Road, Clifton, to accommodate four practices totalling eight doctors with between 17,000 and 19,000 patients at risk had been agreed with the doctors and were about to be submitted to the D.H.S.S. for informal approval.

Discussions had taken place between the Department of Health, the Bristol Executive Council and the doctors practising in the various localities, which had revealed support for health centre practice in the following areas: —

Brooklea, Wick Road, St. Annes (extension of existing clinic)
Hareclive Road, Hartcliffe (extension of existing clinic)
Broadfield Road, Knowle (demolition of existing clinic and building of new purpose-built centre)
100 Fishponds Road (new purpose-built centre)
Oatlands Avenue, Whitchurch (new purpose-built centre)

There is a good chance that all the foregoing schemes may be realised by 1974/5 and at that point we should be in a situation where 101 general practitioners will have some 231,000 patients at risk in 15 health centres, just under half of the doctors and just over half of the patients of this City.

MATERNAL AND CHILD HEALTH SERVICE

Sarah Walker

(Principal Medical Officer—Maternal and Child Health Service)

The number of live births in 1971 was 6,350, 94 more than in 1970 — giving a birth rate of 15·1, which again remains lower than the provisional national figure of 16 for England and Wales. The major contributions to the decline in birth rate in recent years is the extended practice and availability of birth control advice, through our own Department, General practitioners, hospitals, the Family Planning Association and the Brook Advisory Centre. The City Council have agreed to an extension of the Department's family planning provisions in 1972/73 — so as to provide a comprehensive service in terms of the Family Planning Act, 1967. During 1971, the following clients attended the Health Department's family planning clinics:

New Clients	*Attendances*
1,399	4,270

We are glad to report a fall in mortality rates after the disappointing rise in 1970. This year an infant mortality rate of 17, a stillbirth rate of 12 and a perinatal mortality rate of 21, compare with provisional national figures for England and Wales of 18, 12 and 22 respectively. There were no maternal deaths, either direct or associated with pregnancy or childbirth during 1971.

Ninety-five per cent of Bristol babies were born in hospital, but planned early transfer from hospital to home, where mother and baby are cared for by the general practitioner and domiciliary midwife is now an established practice.

The following table gives the number of discharges under this scheme: —

1st—3rd day	*4th—5th day*	*6th—8th day*
1,387	593	748
(1,145)	(773)	(324)

(corresponding figures for 1970 in brackets)

The great majority of expectant mothers in the City receive their antenatal care from general practitioners and domiciliary midwives, holding sessions in the Department's health centres/clinics. Obstetricians from the hospitals hold regular consultant sessions at seven of the peripheral health centres — a service which is of great value, particularly for the expectant mothers who are able to obtain all their antenatal care at a centre within easy reach of their own homes. Parentcraft classes which are run in association with all the ante-natal clinics, were attended by 1,780 expectant mothers, mainly primiparal during the year. This compares with 1,515 in 1970.

The number of cervical smear tests carried out in the health clinics/centres during the year was 6,671. The corresponding number in 1970 was 5,601. In addition 334 employees in a local firm have had tests carried out in the firm's premises — this exercise will be completed early in the new year. Of the total women seen, six had cancer of the cervix requiring immediate surgery and/or radiotherapy, and nine had cone biopsies for carcinoma-in-situ.

Although more general practitioners now undertake child health clinic work for children in their practices, most of this work, with the emphasis on periodic assessment of the child's development, is undertaken by the Department's medical officers.

As a result of the opening of two new health centres, we were able to transfer the branch clinic at Brangwyn Grove Church Hall, Lockleaze, to Horfield Health Centre, and from Fishponds Baptist Church Hall to Fishponds Health Centre.

One of the main features of 1971 was the transfer, as a result of the Social Services Act, 1970, of certain functions hitherto the responsibility of the Maternal and Child Health Service, to the new Social Services Department — namely day nurseries, the welfare of unmarried mothers and recuperative convalescence for expectant and nursing mothers and young children. These services were transferred in September/October, 1971, but transfer of responsibility for private nurseries (including playgroups) and child minders was deferred until the necessary staff could be made available. Considerable discussion took place between the two Departments and complete agreement was reached on the continued role to be taken by the Health Department to ensure that the medical needs of the services are maintained. In the case of the eight City day

nurseries, the established medical service continues by which a departmental medical officer is allocated to each nursery to be responsible for the periodic medical examinations and immunisations, as well as advising on the general health and hygiene standards. Dr. M. D. Gibson, Deputy Principal Medical Officer for the Maternal and Child Health Service, continues to advise on the action to be taken in the case of any infections affecting children or staff. It has also been agreed that Dr. Gibson will advise the Social Services Department on the priorities for admission of children referred on health grounds. The close links with the Health Visiting Service are also being maintained by the matrons of day nurseries in regard to health problems as they relate to the home backgrounds. Mention of day nurseries would be incomplete without paying tribute to the outstanding service of Miss D. Lambert — Supervisor of Day Nurseries for the City for nearly thirty years, who retired at the end of the year.

During the year plans for the establishment of a joint day nursery/nursery school in Hartcliffe were well advanced. This was a project first proposed by the Health and Education Committees twelve years ago, but which at that time was turned down by the Central Government Department on grounds of national economy. We are encouraged to think that this concept is likely to become a reality sometime in 1972.

The welfare service for unmarried mothers which had operated as part of the M. & C. H. service was transferred to the Social Services Department at the end of September. Close liaison continues to be maintained. Mrs. Munday, the Social Worker in charge, holds interviewing sessions at selected health centres/clinics. The practice by which I am advised of all unmarried mothers attending the Health Department's clinics continues, and subject to the client's agreement she is referred to Mrs. Munday for advice and help. Responsibility was also transferred for the agency arrangements with St. John's Mother and Baby Home, which admits Bristol girls in return for an annual grant. St. John's continues to be registered with the Health Committee as a maternity home under the provisions of the Public Health Act, 1936, so that periodic inspections, general guidance and supervision of medical aspects, staffing and accommodation, continue to be the Health Department's responsibility.

The need for the closest co-operation between the staffs of the Health and Social Services Departments in the interest of the welfare of mothers and children, is apparent to all concerned, and there are encouraging signs that these links are being forged and developed.

The following reports have been contributed by members of the Maternal and Child Health Service staff: —

DOMICILIARY MIDWIFERY SERVICE

Miss W. A. Outram — Non-medical Supervisor of Midwives

The midwifery service exists to give a service to mothers and babies by giving advice, practical help and care. But such a service cannot function in isolation. It is most closely linked with the general practitioner service and the hospital service. In our City the hospital service is able to provide for all mothers, for the confinement period; and during 1971 there were only 285 home confinements. However over 40% of hospital births, or 2,728 mothers, came home with their newly-born babies in the early days following delivery to the care of the district midwife and the general practitioner.

Care is given by the midwife to the mother and baby at home for the first four weeks of baby's life. During such time there is opportunity for health education, by advice, example and discussion. The interlude in hospital for the confinement is a comparatively short period. During pregnancy and very soon after the birth of her baby the mother is at home in the community, needing expert care and support. This care is available at our health centres and clinics and from the midwives who make home visits. In the clinics and health centres general practitioners and midwives give clinical care and with the health visitors and physiotherapists provide a wide range of ante-natal care including preparation for parenthood classes. Husbands are also welcomed at some of these meetings.

Each of the main obstetric units, the Bristol Maternity Hospital and Southmead Maternity Hospital, continue to give the general practitioner and the domiciliary midwife the use of a delivery suite. Such facilities are greatly appreciated by patients and the family as well as by the midwives and the doctors. The mother feels that she has all the advantages of hospital confinement and of being at home. During the period of labour she is within the hospital, and receiving care from her own midwife and medical practitioner, but being away from home for a minimal time. Mother and baby return to their family a few hours after the baby has been born. We are grateful to the consultants and nursing staff, who by their courtesy make such an excellent arrangement a happy working reality. 63 babies were born in the short-stay delivery units during 1971.

The domiciliary midwives have each spent one week working either in Southmead Maternity Unit or at the Maternity Hospital to familiarise themselves with the work of their hospital colleagues, and any new specialised equipment. By such a mingling of staff, both hospital and community, midwives are more perceptive to the demands of each other's working spheres and total patient care. It is opportune to express appreciation to the senior nursing officers of the hospitals for welcoming our staff and for planning programmes of observation in the various departments, to give maximum benefit to the domiciliary midwives.

The training of future midwives is of considerable importance and we are able to provide the requisite community experience to the student midwives who have undertaken hospital midwifery training.

From Southmead Hospital there were 16 student midwives who had 3 months' district training, and from the Bristol Maternity Hospital 27 student midwives. Each student is allocated to a district midwife from whom she learns midwifery care in the community. The students meet other health workers, make observation visits, and are given an extensive course of lectures.

In November we were pleased to have Miss Margaret Day join our staff as tutor to the student midwives. We are confident that the teaching from experience and knowledge which will be given to the students will add to the quality of training they receive. Student nurses who are taking an obstetric course during their general nurse training, also come from both Southmead Hospital and the Maternity Hospital at regular intervals. Each nurse spends a day with a district midwife observing the care of the expectant mother and newborn baby in the community.

It can be seen that in every aspect of midwifery work, from patient care to the training of future nurses and midwives the hospital service and domiciliary midwifery service have a close working relationship.

We are fortunate in having this liaison which without doubt is for the ultimate benefit of mother and baby.

SUB-FERTILITY CLINIC

Dr. Rosalind Hinton — Medical Officer of the Women's Clinic

	1971	*1970*
New patients	286	252
Old patient attendances	1,375	1,052
Pregnancies reported	105	113
Marital problems	29	9
Waiting list (in Feb. 1972)	20	50
Cases of Endometrial T.B.	—	1

Our staff have remained constant over the year reinforced by the return of Sister Docker to the post of Senior Nurse. Dr. Rees, who has been filling in for holiday and sickness periods, has left the district and Dr. Milne now comes down when we need extra help. Our link with the General Hospital has been reinforced by the increased number of referrals to the clinic supervised by Mr. Byles for those patients who need full hormonal assessment. As well as the excellent cytology service, we have started sending semen samples for analysis to the laboratory there. Our thanks are due to the laboratory at Frenchay who did this work for us for many years. An extension of co-operation also occurs with the X-ray Department. We are now able to see the x-ray films as well as receiving their reports and in exchange we send down our case notes so that they can see exactly what has been happening to the patient. This is of great help to both parties. Another instance of co-operation I should like to mention is our continuing gratitude to the Special Treatment Clinic at Maudlin Street for reading routine swabs on all patients.

In treatment we are continuing to use more clomiphene and also are working on a series of cases where the patients appear to have poor corpus luteum function. In these we are getting a reasonable degree of success by treatment with dydrogesterone during the second half of the cycle.

An interesting feature of clinic work is the variety of other medical conditions which we pick up. We have, for instance, had one carcinoma of breast, three cervical smears necessitating cone biopsy, and we found various thyroid conditions and other common medical complaints in some cases necessitating referral. Obesity remains a major headache and we are hoping to achieve rather better results than in the past with the help of our Dietician, Miss Chapman.

The large increase in the numbers of marital problems seen last year reflects the fact that at this clinic we have a great interest in helping patients with such difficulties and of course this is echoed by some being referred to us primarily for such help.

I thought it would be interesting to do a breakdown of the factors possibly associated with pregnancy, i.e. immediately preceding conception. Each procedure undertaken in this clinic customarily has a small crop of pregnancies soon after, but in particular the endometrial biopsy is famous for this. This year we have had 13 pregnancies following endometrial biopsy, 5 after hysterosalpingogram, 4 after insufflation and 6 after cervical cautery. Following treatment we have had 6 with dydrogestrone, 6 with clomiphene, 2 with cyclical hormones (we have not been using these long) and 1 with oestrogen alone. In one or two cases of course there was more than one factor associated with the resulting pregnancy.

Dr. George Foss—Medical Officer of the Men's Clinic

The period of the report is slightly shorter than last year and extends from 12th February to 31st January, 1972, so that there were only 44 sessions with 342 attendances, although there were 157 new patients.

It is a pity that only some of the more enlightened members of the medical profession appreciate that it is sensible and practical to start sub-fertility investigation with the male member of the reproductive unit. Many women are subjected to tedious, expensive and prolonged investigations when their other half has never had a genital examination or seminal studies.

In this period of review 29 males have been found to be sterile or virtually sterile, including three cases of Klinefelter's syndrome. Eight patients have been investigated by testicular biopsy at the General Hospital. Two of these were found to have normal testicular histology with a conduction defect and unilateral or bilateral epididymo-vasostomies have been performed by Mr. Donald Young in Warrington (regrettably his highly-skilled help is now lost owing to his retirement). Two cases of varicocele have been operated on by Mr. Howard Hanley in London (but he is about to retire).

Fourteen patients have received treatment with clomiphene for three months or more when it was thought, after investigation, that they might have a chance of improvement. Six men have reported their wives' pregnancy at various intervals after their original investigation. Three of these possibly were the result of treatment with clomiphene, the effect of which may be delayed up to a year after treatment.

For those males who are hopelessly sub-fertile a choice of adoption or A.I.D. can be offered; obviously for the latter complete investigation of the female is essential first. Therapeutic donor insemination is a measure increasing not only in popularity, as the mother can carry her own child, but owning to the Abortion Act and prevalence of contraception, babies for adoption are limited in supply and in Bristol the age limit of the parents is restricted to thirty-five years and the waiting list is ever lengthening.

Twenty-five cases of impotence have been interviewed, examined and investigated, with assays of testosterone at the Bristol Royal Infirmary. Surprisingly low levels in the plasma have been found in even youngish males. Fifteen of this series have been prescribed injections of testosterone oenanthate in generous doses, sometimes over long periods with considerable benefit, and the increase of plasma level of this long-acting androgen may well help to overcome psychological difficulties.

The Pre-school Child with Congenital or Severe Acquired Abnormalities

Dr. Mary Gibson—Deputy Principal Medical Officer, Maternal and Child Health Section.

As in previous years we have used the Bristol register of children under five with congenital or severe acquired abnormalities for three main purposes — statistics, the direction of care to these children and their families in the community and the continuing process of assessment of their educational potential.

Day nurseries, nursery schools and playgroups have continued to give high priority for admission to children who have been slow in early development possibly because of lack of emotional or social stability and stimulation.

These children are brought to the attention of the registry through a number of sources — paediatricians, Hearing and Speech Clinic, and health visitors chiefly. The health visitor is, of course, in an ideal position to monitor a childs development at her periodic visits to the home.

When the Local Education Authority assumed responsibility for the education and training of the severely subnormal children on 1st April, 1971, the nursery unit at the Bush Training Centre which catered for some twelve children from 2+ to 5 years (some on a part-time basis) ceased to admit children under 5.

This loss was minimally offset by the opening of a voluntary playgroup in Central Bristol,

which now caters with one session a week, for severely retarded children, giving them an opportunity of play and social training at the age when they can probably derive most benefit from this.

During 1971 the number of children notified to the Medical Officer of Health on the birth notifications form as having congenital malformations, showed a sharp increase over the figures for the preceding year. The figures for 1971 were nearer to the actual incidence of abnormalities and did not reflect an actual rise in the numbers. In addition, the abnormalities were described more fully. There is still room for further efforts to improve the efficiency of this scheme as there were still surprising omissions in notification — for instance, although 11 anencephalic infants were born in Bristol during 1971, only 9 were notified at birth.

The incidence of congenital abnormalities shows no marked change for 1971 as compared to 1970 and preceding years.

	1971		*1970*	
Anencephaly	11		9	
Overt meningomyclocele	26	(6 were stillborn 12 died before age 1)	25	(4 were stillborn 9 died before age 1)
Hare lip and/or cleft palate	6		9	
Reduction deformity of limbs	—		1	
Talipes	52		38	
Mongol	8		7	

SPECIAL FAMILIES

Dr. C. D. Hopkins — Senior Departmental Medical Officer

On 31st December, the number of ascertained special families was 1,208. These families are ear-marked for more frequent health visitor supervision, and are on the case load of both the District Health Visitor and the Special Family Health Visitor.

The Special Family team has now been reduced to three Special Family Health Visitors working with two assistants and receiving additional help from local clinics. Their work is gradually being geared to short-term acute medical conditions rather than long-term supportative social work. This is resulting in a closer liaison with hospital and general practitioner services. It is a matter of regret to the team that the long-term association with their families is really drawing to a close, now that social responsibility for these families rests with the Social Services Department.

In many cases, there is an overlap of the work of social services workers and that of the health visitors, but as the emphasis for the health visitors is now so definitely on medical conditions, this should lessen considerably.

Unemployment has been adversely affecting the well-being of unstable family units, in so far as it is the able and the willing persons who are more likely to retain their employment. The less adequate fathers are, therefore, frequently the first to lose their employment and in many cases this leads to the mothers taking employment outside the home. Increases in the nursery services for the under 5's, such as day nurseries, registered child minders, nursery schools and nursery classes, are helping to relieve the resulting pressures and are also providing the stimulation frequently lacking in the home. Holiday times, however, remain problem times, for many of these establishments are closed.

Contraceptive advice is usually acceptable to both mothers and fathers, including a general interest in vasectomies. There is no doubt that special families are tending to be smaller than they were ten years ago and in general their problems are correspondingly less.

CLINIC ATTENDANCES

		New Patients	*Total Attendances*
(a)	*Antenatal*		
	(i) Medical Officer sessions	118	682
	(ii) General practitioner sessions	4,182	34,998
	(iii) Consultant sessions	2,080	7,067
	(iv) Midwives sessions	60	600
(b)	*Postnatal*		
	Medical Officers and G.P.'s sessions	4,625	7,364
(c)	*Parentcraft Classes*		
	Number of expectant mothers who attended classes		1,780
	Total number of attendances		6,787

(d) *Special diagnostic clinic*

(i) New patients	119
(ii) Attendances	270

(e) *Child Health Clinics*

(i) Total number of infants under 1 year	8,644
Total attendances of infants under 1 year	46,165
(ii) Total number of children aged 1—5 years	9,808
Total attendances of children aged 1—5 years	28,685

(f) *Health Visiting*

Home visits: (i) Primary (to new babies)	6,737
(ii) Infants under 1 year (excluding (i) above)	17,377
(iii) Children 1—5 years	43,077

DENTAL HEALTH OF MOTHERS AND PRE-SCHOOL CHILDREN

Mr. J. McCaig, Chief Dental Officer reports:—

Comprehensive treatment is available at clinics and health centres where there are dental departments for all cases referred by medical officers, general practitioners and mothers seeking treatment for themselves and their children. There is little difference in the return of work for last year and the time allocated to this service is the equivalent to one full-time dental officer. It has always been difficult to alert mothers that the service is available for them and the pre-school child. All health personnel play their part in imparting information, but if mothers do not attend the clinics, many can remain unaware of the service. When school children receive a dental inspection they take home acceptance forms to be signed by parents. This year a new design of these forms has been issued and on them parents are informed that the school dental service is available to pre-school children, expectant and nursing mothers.

It is a far cry from "he's got his first tooth" and all the interest and pride a mother takes in showing baby's tooth to all and sundry, to the three-year-old having a tooth out in the dental chair. If only the interest and care in every tooth that erupts could continue, then there would be little need for extractions for under five-year-olds.

Dental health education tries to put over to mothers that prevention is better than cure, and leaflets are given out at clinics to convey this important message. In spite of this, mothers give children sweets or sugar-coated comforters and some comforters are filled with sweet syrup and lasts the child most of the day. Teeth thus erupt into an environment which is hostile to any preventive measures. These dental hazards, involved in the misuse of undiluted fruit syrup, has led to the replacement of welfare orange juice and cod liver oil. The necessary vitamins A, D and C will be administered in the form of drops for the children and in tablet form for expectant and nursing mothers. For thirty years, orange juice and cod liver oil rich in vitamins, have poured down the throats of mothers and infants and as the era ends, let it not be forgotten that in war-time rationing, they filled a much-needed requirement in their diet. Ideally mothers should not give their children sweets, but few can resist the temptation and even the few are undermined by the good intentions of neighbours or friends who try to make up to the children for their mothers' resistance.

Preventive measures such as brushing the teeth regularly with or without fluoride tooth-pastes, topical application of fluoride etc., cannot compare with the one effective and researched method of adding fluoride to the drinking water. From a dental health point of view, because parents fail to take their children to the dentist regularly, will not ration their sugar intake, are unable to enforce strict oral hygiene, then the need for fluoridation is absolutely critical.

Fluoride is a chemical which is already present in Bristol's water supply and by adjusting the level to one part per million, dental decay in children's teeth in Bristol can be cut by half. The evidence in favour of fluoride is both longstanding and overwhelming and surveys throughout the country show the beneficial effect of fluoride. For example, in a survey at West Hartlepool and York, a comparison of children from these areas found that children in West Hartlepool, which is a fluoride area, had 45% fewer cavities than the children from the non-fluoride area of York. In Birmingham the benefits of fluoridation are pointed out in a report, which states that there was a decrease in the number of teeth extracted in 1970, when, for the first time, the figure was down below the thousand mark. There was also a substantial fall in the number of children requiring emergency treatment.

The table at the end of this section shows the work carried out by the school dental service for mothers and pre-school children.

SICKLE CELL ANAEMIA

SCREENING TEST

During the year this quick blood test has been carried out at the Central Health Clinic to discover if any children who need a general anaesthetic have the tendency to this disease. If they give a positive result they are asked to go to the Dental Hospital for their anaesthetic. A total of 147 tests were performed and of these 15 were positive.

LOCAL AUTHORITY COMMUNITY HEALTH DENTAL SERVICES FOR EXPECTANT AND NURSING MOTHERS AND CHILDREN UNDER 5 YEARS AS AT DECEMBER 1971

Part A—Attendances and Treatment

	Children 0–4 (incl.)	949 *Expectant and Nursing Mothers*
Number of visits for treatment during year		
First visit	750	
Subsequent visits	678	425
Total visits	1,428	1,374
Number of additional courses of treatment other than the first course commenced during year	21	11
Treatment provided during the year — number of fillings	1,272	954
Teeth filled	1,203	870
Teeth extracted	508	306
General anaesthetics given	192	23
Emergency visits by patients	77	36
Patients x-rayed	13	31
Patients treated by scaling and/or removal of stains from the teeth (Prophylaxis)	70	248
Teeth otherwise conserved	275	
Teeth root filled		3
Inlays		—
Crowns		4
Number of courses of treatment completed during the year	673	340

Part B—Prosthetics

Patients supplied with F.U. or F.L. (first time)	12
Patients supplied with other dentures	21
Number of dentures supplied	42

Part C—Anaesthetics

General anaesthetics administered by dental officers	—

Part D—Inspections

Number of patients given first inspections during year	1,247	501
Number of patients in A and D above who required treatment	781	447
Number of patients in B and E above who were offered treatment	762	445

Part E—Sessions

Number of dental officer sessions (i.e. equivalent complete half days) devoted to maternity and child welfare patients:	For treatment	395
	For health education	—

NURSING SERVICES REPORT

Margaretta Marks-Jones
(Chief Nursing Officer)

Reference was made in last year's annual report to the number of reports issued during the previous years directly aimed at nursing and nurses. The report of the year in 1971 which will undoubtedly affect the future of nursing and nurses was the Consultative Document. A great deal of emphasis in the report is placed on management. To quote from the document: 'The nurses provide an indispensable service in the hospitals, in the home and in the preventative as well as the curative aspects of illness. The size and complexity of the service demand good management if efficiency and economy are to be secured and in recent years nurses have become increasingly well prepared to take their part in the management of the National Health Service at all levels'. The nursing services are now in the process of being reconstructed both in the hospital and in the community. This will enable us to play a valuable part in the formation of a unified health service. Following the publication of the Mayston Report, a suggested management structure for local implementation has been submitted to the Department of Health for approval. It is hoped that this will be approved and implemented in the New Year. The other big development of the year was the setting up of the Local Authority Social Services Department. As recommended in a recent circular from the Department of Health and Social Security, every effort is being made to establish effective channels of communications between the different services at field worker level and to ensure better understanding of each other's work. The transfer of responsibility for the day nurseries has not in any way changed the responsibility of the health visitor for the health development of young children. In the same way the health visitor and district nurse continue to be involved with the handicapped, the chronic sick and the elderly, although their social care is now the responsibility of the Social Services Department.

HEALTH VISITING SERVICE

The change in the organisation of the health visitors' work which began towards the end of 1970 continued during 1971, so that by the end of the year 19 health visitors were working in association with general practitioners working from health centres. While this may appear to be leisurely progress, it is important that consultations take place with general practitioners and that the health visitors concerned are adequately prepared for the changes involved. At the end of the year plans were being made to extend this reorganisation to other practices. In the latter part of the year a study was undertaken to compare the referral rate taking place between general practitioners and health visitors since this association has taken place. This study should indicate how the work pattern of the health visitor evolves when such a change is made.

RECRUITMENT

This was an encouraging year as far as recruitment was concerned. At the end of the year there were eleven additional members of staff employed as compared to the previous year. Fifteen students completed the course in September and successfully passed the examination — one with distinction. Another fifteen students commenced the course in October. Seven health visitors joined the staff from other authorities and eight resigned from full-time duties, four for family reasons and four for posts in hospital and other local authorities.

THE SICK AND AGED

The following is a summary of cases visited in the year by the specialist health visitors and the health assistants. In addition 4,184 visits were made by attached and district health visitors which totals almost 1,000 more visits compared to the previous year.

	Males	*Females*
1. 65 years of age and over	1,123	2,153
2. Under 65 years of age	115	208
3. Number in '1' visited at special request of G.P.	1,361	
4. Mentally disordered	21	
5. Number in '4' visited at special request of G.P. or hospital	18	
6. Persons discharged from hospital other than mental hospitals	474	
7. Number in '6' visited at special request of G.P. or hospital	456	
Total number of subsequent visits to all cases	9,282	

NIGHT SITTER SERVICES

Although recruitment to this service is difficult, there was a slight improvement during the year. Hours worked during the year totalled 10,171 in comparison to 6,663 the previous year.

PREMATURE BABIES

There was a slight increase in the number of premature babies visited by the specialist health visitors. During the year 572 babies were visited, of whom 509 were in the Bristol area.

REFRESHER COURSE AND IN-SERVICE TRAINING

One of the highlights of the year was the refresher course arranged for health visitors by the Department of Public Health, University of Bristol. The theme of the course was 'Health Visiting — The Next Decade' and was planned for health visitors who were concerned about the changing pattern of their work. It questioned what the future held for the health visitors and sought to help participants find their own answer by considering the subject from different view points. A distinguished panel of speakers took part and the course was most successful. It was attended by twelve members of Bristol health visiting staff and thirty-four from other local authorities, all of whom appeared to have found it stimulating and returned to their work refreshed. One health visitor attended a six-weeks course for fieldwork instructors and five senior members of staff attended management courses. Study days were held at Manor Park Hospital and Barrow Hospital. Many other members of staff were given opportunities to attend seminars and conferences for which they are most grateful.

LIAISON WITH HOSPITALS

Determined efforts are made to establish co-operation between the domiciliary nursing staff and the hospital staff. This is maintained very closely in the maternity, chest, paediatric and geriatric departments of hospitals and more recently with the new radiotherapy unit at the United Bristol Hospitals. With the prospect of the integrated health service within a comparatively short time ahead, every opportunity of hospital and community services working together is to be welcomed.

USE OF ANCILLIARY HELP

Wider use of ancillary help has enabled the health visitors and district nurses to apply their skills more effectively. It is encouraging that no difficulty is encountered in recruiting these members of staff.

VISITORS TO THE DEPARTMENT

A total of 234 student and pupil nurses accompanied health visitors and district nurses for experience in the domiciliary field. In addition the following professional students were helped :— 16 Diploma Public Health postgraduate students, 43 pupil midwives, 36 midwives' refresher course, 106 medical undergraduates and 27 social studies students.

HOME NURSING SERVICE

	1971	*1970*
Total visits paid by nursing staff	298,179	261,479
Patients treated in doctors' surgeries	5,020	5,344
New cases referred during the year	5,160	4,728

The past year has shown a sharp rise in the number of visits paid by the district nursing staff. Work loads have increased steadily and pressure on the nurses has continued to rise with more attachments to G.P's during the year. This reflects the closer communication with the doctors and more assistance being given with routine visiting of the elderly and chronic sick, as well as a great many visits for screening tests.

More problems have been uncovered and this has meant more intensive visiting by the staff to refer patients to the right sources for help as well as reporting back to the doctors. Despite the pace, the staff have an increased satisfaction in their work and feel they have a more positive attitude in the patients' homes.

Our nursing assistant recruitment has almost doubled during the past year — they have paid 18,554 visits for hygiene and routine toilet care and this has enabled the trained staff to deal more effectively with their ill patients and those needing priority care. An in-service course was held for this grade to give them greater insight into their role, assist in health education, first aid and more practical procedures in the home.

At the same time the increase in nursing assistants has diluted the trained staff to a degree where difficulties have been experienced in covering holidays, sickness and off-duty. It is less easy

to cover an attachment than the geographical area — the situation demands not merely coverage but someone with expertise, knowledge of the patients and background to deal with the demands of the G.P's face to face.

Vacancies caused through retirement and resignation are also more difficult to fill as all staff must essentially be fully mobile now, in possession of a current driving licence and own a car. Selection of staff is very important to recruit nurses of the right calibre and train them for the attachments — they must be prepared to accept more responsibilities than their hospital colleagues and to have a stable background to enable them to withstand the emotional stress and conflicts they are continuously meeting.

District training has continued during the year with S.R.N's and S.E.N's and the pupil integrated courses running continuously.

Students trained during the year:—	S.R.N's	Bristol	6
		Counties	6
	S.E.N's		10
Pupils (Frenchay Hospital Group)			26

All candidates were successful in passing the examination for the D.O.H.S.S. Certificate in District Nursing.

HEALTH EDUCATION

P. Mackintosh
(Health Education Officer)

NUTRITION SURVEY

From January to April, the Assistant Health Education Officer was seconded to the Department of Health and Social Security, to lead a team of three interviewers in conducting a weighed dietary survey of schoolchildren born in 1960. The request to conduct the survey was made by the Principal Medical Officer (Nutrition) at the Department of Health and Social Security, with a view to monitoring changes, if any, in the children's growth rate. Three schools were involved in the survey and a total of 106 boys and girls participated fully in the survey, with the co-operation of the parents and the schools meals staff. It is planned to repeat the survey in a few years' time in the same schools with a similar sample of children.

OTHER NUTRITION PROJECTS

With the appointment of an Assistant Nutritionist in March, it became possible to increase nutrition and dietary aspects of health education. This was done mainly through more in-service training of staff, such as health visitors, school staff nurses, student home nurses, home helps, residential homes staff and social workers.

Work with overweight schoolchildren continued and expanded; this latter involved revision of dietary advice literature, weight charts and overall procedures and discussions with the staff concerned. Arrangements were made for the Assistant Nutritionist to visit all senior schools each term for individual or group dietary counselling of children selected by the school staff nurses.

As a follow-on from the previous year's pilot scheme on group therapy weight reduction classes, a course entitled "Nutrition—Wise Eating for the Overweight", was offered through the Further Education Department (South Bristol). There was an initial enrolment of 27 women and this necessitated the formation of two classes, each attending six 2-hour sessions. The attendance and progress were good and at the request of the members, a continuation class is in progress and another course for new members has been started.

Nutritionists now have regular sessions at the William Budd, St. George, Southmead and Horfield Health Centres; these provide an opportunity for giving dietary advice to individuals referred by general practitioners (mainly because of obesity), but at the same time some degree of group therapy is incurred through patients meeting regularly in the waiting rooms and taking a spontaneous interest in each other's progress.

SMOKING AND HEALTH

Special clinic sessions to help people give up the smoking habit were first held in 1963; they were continued in the two following years, but for staff reasons, the sessions were abandoned in 1966. In 1967, an Assistant Medical Officer and an Assistant Health Education Officer arranged a series of "crash" courses, i.e. sessions held on five consecutive nights, but again, due to staff changes the sessions had to be discontinued for another two years.

In 1971 however, the Deputy and the Assistant Health Education Officers arranged four "Stop-Smoking Courses"; three of these were spread over 10 weeks and were held in the afternoon and one of 6 weeks was held in the evening. The aim of these courses is to give support, advice and encouragement to those who wished to give up smoking. Publicity about the courses appeared in the Personal Column of the Evening Post and on specially printed posters issued to family doctors, clinics and hospitals.

Fifteen health visitors attended three 2-hour training sessions, arranged by the Deputy and Assistant Education Officers. The intention is that these health visitors will use the information gained in their work in schools.

V.D. PROPAGANDA AND EDUCATION PROGRAMME

Reference was made in last year's report of the V.D. Telephone Answering Service. Information about the existence of this service is advertised regularly in the Evening Post Personal Column, and a small 'block' advertisement on the 'gossip' page. By 29th December 1971 a total of 31,412 calls were registered; the recorded message gives the caller information about the symptoms of V.D. and the address and clinic times of the Special Treatment Centre. The message is obviously providing a valuable educational service.

By the end of the year an agreed script for the proposed film had been drawn up. This had been arrived at after several meetings between members of the Health Education Section, The Bristol Cine Society, a consultant venereologist and Miss Barbara Buchanan of the Evening Post, who was responsible for providing the final version.

In January a training day for youth leaders was arranged by the Deputy Health Education Officer. The speakers were a consultant venereologist and a social worker. Talks on V.D. were given to a number of fifth and sixth formers and in one college of education.

HEALTH VISITORS AND HEALTH EDUCATION

Nine of the newly appointed health visitors attended a course of six sessions, on Friday afternoons, arranged by the Deputy and Assistant Health Education Officers. The course was designed to introduce the health visitors to the work of the Health Education Section. Seven more of the new health visitors will attend a similar course early in 1972.

The quarterly meetings of the four nursing divisions were again visited by the Deputy Health Education Officer. The purpose of these meetings is to bring to the attention of health visitors new health education material and to inform them of current health education activities. Subjects covered during the year were Family Planning, Cancer Education, Cigarette Smoking, First Aid and Nutrition, the last being introduced by the Assistant Nutritionist.

RADIO BRISTOL

Miss Kate Adie, producer of "Womenwise", a women's programme on the local radio station, met the Medical Officer of Health and some of his senior medical and technical officers in February. After a valuable discussion, arrangements were made for a series of three to four minute tape recordings on health topics to be prepared, and these were later completed and included in the "Womenwise" programmes. The subjects included Bedwetting, Home Safety, Immunisation, Mental Health, Foreign Travel and Nutrition. Later in the year four short talks were recorded by the Assistant Health Education Officer on Basic First Aid; the first of these was broadcast to coincide with the First Aid Exhibition which was staged at the Bristol Flower Show.

DISPLAYS, EXHIBITIONS AND CONFERENCES

Once again, the largest display was at the Bristol Flower Show. The displays connected with First Aid in 1969 and 1970 had proved so popular, it was decided to pursue the theme in 1971. Details appear in the annual report of the Home Safety Council.

A small exhibition was installed at the Teachers' Training Centre, the subject being Local Health and Health Education Services. The occasion was the Probation Teachers' Conference and lasted two days.

On Saturday, 25th September, the Health Education Institute held a study day on 'Foot Health', at Bristol University. The Deputy Health Education Officer acted as local organiser.

Following the Health Education Council's conference at Bangor in 1970, a number of health education officers expressed a desire for more frequent meetings to take place, with the opportunity to compare notes and discuss common problems and activities. The first meeting took place in Bristol on 20th April and 24 health education officers attended; they came from an area stretching from Cornwall to West Sussex and from South Wales and Oxford. A second meeting was held at Winchester on 19th October.

A number of courses and seminars were attended by the Deputy and Assistant Health Education Officers. These included four evening training sessions on "Projection" organised by Bristol Education Department, a one-day seminar on "Smoking and Health" at the Royal College of Physicians, a four-day course on "Display Work" at Soundwell Technical College; the Deputy Health Education Officer attended a one-week seminar at Cambridge, organised by the Health Education Council; the Council arranged also a one-week course in Bristol on "Statistics and Epidemiology", which was attended by the Assistant Health Education Officer.

FIRST AID TRAINING

During 1971 first aid training continued to be developed in schools and Corporation Departments, together with requests for talks on Accident Prevention and Safety. As a result, 254 certificates in first aid were awarded during the year and a total of 5,138 students received talks.

The experimental 5-day first aid courses proved so successful that they have now become an established monthly commitment which will continue to be developed in 1972. Now that these courses are established, refresher courses to be taken at one year intervals are being developed. At these intervals (more frequent that the maximum 3 years as laid down by the Joint First Aid Societies), it will be possible not only to maintain the knowledge acquired, but to add to it.

Another development planned for 1972, is a course on Health and Safety at Work. These courses will be of short duration and will be tailored to the requirements of specific departments.

Following the very successful poster produced by the Section — "The Kiss of Life", a series have now been produced covering 7 of the more serious first aid conditions. The posters, with a smaller leaflet, prove of considerable interest in clubs, where they can be put up for permanent exhibition and the leaflets are being used by many housewives who put them up in kitchens and bathrooms. The main benefit of the posters is their simplicity which ensures their use in an emergency without a lot of printing etc. It will be possible to produce other posters in the coming months.

BRISTOL HOME SAFETY COUNCIL — 1971

Forty persons died as the result of an accident in or around their homes; the figure showed a total of 25 females and 15 males, among the latter, the oldest male was 104 years and the youngest 1 year. One baby girl, just four weeks old, was the youngest female and the eldest was 89. Twenty-one of the 25 females were between 65 and 89 years of age.

Falls again accounted for most of the fatal accidents, 21 females and 11 males: in three cases, the falls were associated with burns and in one, with scalds. Three deaths were caused by burns; two men, one 44 and the other 68 were fatally burned when their bedrooms caught fire: a 79 year old woman died from burns after her clothes were ignited by an open gas ring. A year-old boy was electrocuted by an exposed electric wire and there was an unusual case of a 70 year old woman who died after accidentally drinking Chloros.

A 77 year old woman's bed caught fire, resulting from a smouldering cigarette, and she died from carbon monoxide poisoning. Once again, improperly installed gas water heaters claimed victims, an 18 year old boy and a 24 year old woman died in the same house from carbon monoxide poisoning. A 42 year old woman accidentally inhaled household gas.

The main activities of the Council during the year were connected with a First Aid Competition for Secondary Schools and the display and demonstration at Bristol Flower Show. The competition was designed to test youngsters' initiative and knowledge of basic first-aid. Teams of two from Portway, Speedwell, Connaught Road and Hartcliffe Schools and from Bristol Grammar School and Merrywood Grammar School for Girls competed in the main hall of St. Mary Redcliffe School on Saturday, 26th June. Members of the Home Safety Council and parties of supporters from each school attended and the 'platform' party consisted of Mrs. Twist (wife of the Chief Constable) who presented the prizes, the Chairmen of the Health and Education Committees and the Chairman of the Home Safety Council. The central well of the hall was furnished as the living room of a house occupied by husband and wife and their daughter. The competitors were supposed to be friends of the daughter who were calling on her. In turn, each team had to deal with the husband who electrocuted himself and his wife who severely cut her wrist and hand. The competition was judged by the Training Officer (Health Education) and the Principal Medical Officer — Occupational Health. All teams displayed a high standard of competence; the first place was taken by Connaught Girls School and the award was the Ethel Boyce Memorial Rose Bowl + £15 for the purchase of books for the school library; Bristol Grammar School were second and awarded £7.50. Members of each of the teams received £2. The prize money was put up by the Health and Education Committees.

The stand at the Flower Show included demonstrations of mouth-to-mouth resuscitation and treatment for shock and bleeding. Rehearsals for the demonstrations began in July, three training sessions being organised for 13 health visitors, two district nurses and five voluntary first-aid workers. This involved a considerable amount of organising and was ably arranged by the Assisant Secretary, the Assistant Health Education Officer and the Training Officer. The competition took the form of "What would you do?" in the event of certain accidents occurring, all of which were portrayed on a screen. There were 586 entries of whom 119 were in the 12–15 age group, 57 in the 11 years and under group, the remainder being in the over 16 age group. Prizes for the groups were £2.00 gift tokens for the 12–15 and 16 years and over and £1.50 gift token for the under 11. Each winner and the runners-up received also a copy of "New Safety and First Aid". The prizes were presented by the Lord Mayor of Bristol at the Annual General Meeting.

There was a continuing interest in home accident prevention by young people doing school projects, Duke of Edinburgh Award candidates and women's organisations. There is an increasing tendency for requests for a knoweldge of basic first-aid — people want to know what to do in the event of an emergency and this is a most encouraging sign.

We should again like to express our appreciation of the support and continuing interest in the Council's activities by the members of the Public Health Committee.

I. Knight (Chairman)
P. Mackintosh (Secretary)

AMBULANCE SERVICE

E. C. G. Joy

(Chief Ambulance Officer)

The year 1971 saw a further escalation in the number of requests for transportation of patients. The Ambulance Service itself carried a record number, whilst the supplementary services, particularly the Hospital Car Service, gave increasing support in meeting the demands.

The emergency calls on the service continue to rise. An examination of these cases indicate an increase in the number of patients suffering from overdose of tablets, assault and sudden illness in the home where the patients or relatives have found difficulty in obtaining the services of a doctor, or are diffident about contacting same during the evening or night.

The position of the Ambulance Service in relation to sudden illness in the home is not clearly defined, but whilst there may be no legal obligation, it has been accepted that there is a moral obligation to assist. The normal procedure in cases of this nature is for ambulance control to try to obtain the services of the family doctor or an alternative in the first instance. If any delay is encountered, then an ambulance crew is sent to the incident to investigate. Should the crew consider it desirable, the patient is conveyed to the nearest casualty department for medical attention.

STATISTICS 1971

Patients

1971	*Bristol Ambulance Service*				*Supplementary Services*			
Month	*Accidents*	*Maternity*	*General*	*Total*	*Taxis*	*H.C.S.*	*Grand Total*	*Rail Cases*
January	703	171	15,025	15,899	244	1,054	17,197	1
February	708	164	14,405	15,277	147	932	16,356	1
March	768	173	17,136	18,077	181	1,245	19,503	2
April	803	170	14,502	15,475	187	1,145	16,807	3
May	815	176	14,734	15,725	210	1,272	17,207	1
June	792	143	15,329	16,264	171	1,385	17,820	3
July	886	164	15,790	16,840	223	1,441	18,504	3
August	813	142	14,705	15,660	134	1,528	17,322	4
September	815	141	15,725	16,681	251	1,802	18,734	5
October	893	122	15,501	16,516	183	1,654	18,353	3
November	787	130	16,503	17,420	228	1,688	19,336	2
December	826	137	14,686	15,649	107	1,695	17,451	—
Totals	9,609	1,833	184,041	195,483	2,266	16,841	214,590	28

Mileage

	Bristol Ambulance Service		*Supplementary Services*			
Month	*Ambulances*	*Dual Purpose*	*Taxis*	*H.C.S.*	*Grand Total*	*Rail*
January	38,708	30,897	1,599	11,895	83,099	110
February	37,440	29,134	932	11,311	78,817	100
March	42,140	33,577	1,200	16,223	93,140	257
April	38,003	29,186	1,434	14,029	82,652	558
May	38,886	29,587	1,792	17,271	87,536	44
June	37,528	33,436	778	16,702	88,444	345
July	40,648	32,002	955	18,034	91,639	381
August	36,988	31,894	571	17,187	86,640	445
September	39,414	31,530	970	21,150	93,064	630
October	39,726	30,021	842	18,468	89,057	315
November	39,956	32,822	949	20,294	94,021	530
December	38,981	31,069	497	20,504	91,051	—
Totals	468,418	375,155	12,519	203,068	1,059,160	3,715

The following tables shows the comparison with the previous four years for patients and mileage.

Patients

	Bristol Ambulance Service				*Supplementary Services*			
Year	*Accidents*	*Maternity*	*General*	*Total*	*Taxis*	*H.C.S.*	*Grand Total*	*Rail Cases*
1971	9,609	1,833	184,081	195,483	2,266	16,841	214,590	28
*1970	9,121	1,852	178,855	189,828	1,866	7,805	199,499	35
1969	8,969	1,871	168,720	179,560	2,469	5,381	187,410	47
1968	8,286	1,988	171,484	181,758	2,772	5,376	189,906	42
1967	8,372	1,939	165,465	175,776	1,852	4,322	181,950	52

Mileage

	Bristol Ambulance Service			*Supplementary Services*			
Year	*Ambulances*	*Dual Purpose*	*Total*	*Taxis*	*H.C.S.*	*Grand Total*	*Rail*
1971	468,418	375,155	843,573	12,519	203,068	1,059,160	3,715
*1970	457,987	372,432	830,419	12,391	80,621	923,431	3,766
1969	473,878	362,292	836,170	15,698	54,561	906,429	5,165
1968	482,548	340,894	823,442	18,564	50,769	892,775	5,169
1967	476,796	332,798	809,594	11,388	35,418	856,400	5,263

* The figures for 1970 have been adjusted in view of the curtailment of services in that year due to industrial action.

The following table shows the various types of emergency calls in a typical month.

November 1971		
Accidents—		*% of Total*
Road	208	26·4
Works	49	6·2
School	43	5·5
Home	95	12·1
Public place	111	14·1
Sudden illness in public place	137	17·4
Sudden illness at home	71	9·0
Overdose or attempted suicide	44	5·6
Assault	29	3·7
Total	787	100·0

While there were no major accidents during the year three incidents were recorded of some significance.

(1) Multiple crash in fog on M5 motorway section just north of Avonmouth.
(2) Two single deck buses in collision in Stapleton.
(3) Two cars in head-on collision at Hallen (4 fatalities).

Assistance was rendered at incidents (1) and (3) by the Gloucestershire Ambulance Service, whilst the Bristol Service was able to reciprocate when an explosion occurred in the I.C.I. works at Severnside in the County.

SURVEY

The South West region and the Leeds Hospital region were selected by the Nuffield Centre for Health Services Studies and the Centre for Transport Studies of Leeds University, who wished to consider various aspects of organisation and operational management of ambulance services in these areas. The Department of Health and Social Security made a research grant available to the University for this purpose and sought the co-operation of the authorities in the areas concerned as it was felt the results could have an application in the proposed Health Services reorganisation.

PRODUCTIVITY SCHEME

During the year agreement was received from the National Joint Council for Local Authority (Manual Workers) for the implementation of the productivity scheme. It is due in no small measure to the co-operation of the staff in this scheme that the volume of work undertaken has increased without an increase in staff.

DEPARTMENT OF HEALTH AND SOCIAL SECURITY CIRCULARS

Circulars on the following subject matter have been received, mostly emanating from recommendations of the Ambulance Service Advisory Committee. In all cases the recommendations have either been implemented or provision has been made in the coming financial year for their implementation. In some, such as stretcher trolleys, inflatable splints and Entonox, the Bristol Ambulance Service has been among those authorities who have pioneered the use of such equipment in the service and on whose experience the recommendations were based.

Circular LHAL 2/71. Ambulance Service — Resuscitation, Oxygen and Suction Equipment.
Circular LHAL 9/71. Glossary of Standard Terms for use in the Ambulance Service.
Circular LHAL 12/71. Inflatable Splints.
Circular LHAL 14/71. Radio Communications Rationalisation Plan.
Circular LHAL 15/71. Proficiency Badges.
Circular LHAL 20/71. Refresher Training for Ambulancemen.
Circular LHAL 21/71. Stretcher Trolleys — Specifications.
Circular LHAL 32/71. Carriage of Dangerous Substances by Road — Action to be taken by Ambulance Service.
Circular LHAL 37/71. Ambulance Vehicles. Maintenance and Safety Precautions.
Circular LHAL 50/71. Use of Entonox in the Ambulance Service.

EQUIPMENT

Two new pieces of Ambulance equipment were added to the Service for evaluation.

SCOOP STRETCHER

This is a lightweight aluminium stretcher which can be used to "scoop" up badly injured patients for placing on the trolley stretcher. This avoids the need for excessive handling of the patient by the ambulance crew.

SABRE RESUSCITATOR

This is a new type resuscitator and oxygen therapy unit, the advantage of this piece of equipment being that the valve controlling the inhalation and exhalation cycles is of unique design, evolved directly as a result of the Apollo spacecraft fire when three astronauts died.

This new valve has no moving parts and is virtually unbreakable — a distinct advantage over most of the conventional resuscitation sets.

FUEL FLOW MONITORING EQUIPMENT

The above equipment was installed during the year. This enables each vehicle crew to draw petrol on a self-service basis by means of a printed circuit 'key'. The amount of petrol is automatically recorded against the specific vehicle on a counter in the station office. The system allows 24-hour operation of the petrol pumps with no supervision but with complete security.

Administration records are considerably reduced as is the amount of time spent on such procedures.

STAFF

The year saw the creation of three new sub-officer posts.

This has added a much-needed reserve to the officer strength and has enabled a programme to be drawn up for the regular undertaking of duties attaching to these posts, together with the creation of a standby rota for officers covering major incidents and additional ambulance availability.

I would like to take this opportunity to express my own sincere appreciation for the support and loyalty I have enjoyed from all the staff of the Service.

A special vote of thanks is due to Mrs. Powter, the Hospital Car Service Organiser and her drivers for their efforts in absorbing an increasing workload and assisting the Ambulance Service to meet its commitments.

CARE AND AFTER CARE

OLD PEOPLE IN BRISTOL

J. F. Skone
(Deputy Medical Officer of Health)

At the time of the 1971 census, there were in Bristol 23,385 people born between 1906 and 1910, 21,400 born between 1901 and 1905, 16,610 born between 1896 and 1900, and 21,990 (15,330 women and 6,660 men) born before 1896. According to National Projections, the number of over 75's will increase by 35% by 1991.

During 1971 nearly 11,400 elderly Bristolians received chiropody treatment, about two-thirds in clinics or health centres. Home help was given to 4,639 old and chronically sick people; meals on wheels were delivered to 1,811 people, and 413 patients made use of the laundry service for the bed-fast and incontinent. It has been difficult to recruit night-sitters who are paid at the same rate as nursing assistants (37 pence an hour) but 57 old people were helped in 1970 and 79 in 1971.

By the end of the year, 955 elderly persons' dwellings, about 15 per 1,000 people aged 65 and over (including 648 with wardens) had been provided by the Housing Committee and 564 by Housing Associations including Bristol Old People's Welfare Incorporated, Help the Aged Housing Association, Lansdowne Housing Association and British Legion Housing Association*. At 30th November, 1971, there was a total of 944 applications for Corporation housing from persons aged 65 years and over. Of these 628 were in respect of one person and 316 of two. On 31st December, 1971, the Corporation was building 92 one bedroom and bedsitting-room dwellings, of which 68 were specifically for elderly persons; the comparable totals at the end of 1970 were 273 and 164.

In its ten-year plan for the period up to 1975/76 Bristol Corporation hoped that the number of places in homes for the elderly (including the elderly mentally infirm) would rise from 937 at the end of March 1965 to 1,391 at the end of March 1971 and 1,658 at the end of March 1976. The residential accommodation at 100 Fishponds Road has been progressively closed as new homes have been opened, and with the help of Dr. W. H. Lloyd who was appointed Co-ordinator of Geriatric Services at the beginning of 1966, chronically sick patients were transferred to hospital. Unfortunately, because of restriction on capital spending, the total number of residents accommodated by the end of 1970 was only 957, although the Social Services Committee was financially responsible for a further 107 aged and disabled persons, in homes provided by voluntary bodies or other local authorities.

In July 1971 Coombe Home (36 beds) was opened, and in the early part of 1972, Wainbrook, Barton Hill Home (58 beds) will be opened, followed by the Home in St. Paul's (58 beds) in September 1972, and a Home at Derby Street, Redfield (54 beds) in September 1973. At present, younger physically handicapped people are accommodated in one of the units at Meadowsweet, and it is hoped that it will be possible to transfer them when a purpose-built unit for the physically handicapped is opened at Lockleaze in about September 1973, freeing 14 additional beds for the elderly.

* The gross figure of 24 per 1,000 compares with a figure of 2·1 in March 1965 and a "target" of 5·2 in April 1971. The highest rate planned for county boroughs in 1971 was 118·0.

It is hoped to transfer some elderly mentally infirm residents at present accommodated in Corporation homes to Gleeson House, which has been converted into a 35-bed unit, and it is possible that St. Peter's Home will later be similarly adapted.

In August 1971, the Research Officer of the Department of Social Services, Mr. P. Dooley, made a survey that disclosed a high degree of mental and physical disabilities among residents in Corporation homes. There are 653 beds in homes registered under Section 37 of the National Assistance Act 1948. In September 1968 the Social Services Committee considered Circular 31/68 relating to the Health Services and Public Health Act 1968 but decided not to implement the provisions of Section 44 which would enable them to make arrangements for accommodation in any home carried on by a person registered under Section 37.

Eleven registered nursing homes provide a total of 176 beds for chronically sick patients, nearly all of whom are elderly.

There are many elderly people among the 450–500 handicapped attending the Pastime Centre in Lockleaze; a second centre will be opened in South Bristol later in 1972. Bristol Association for Elderly People is prominent in providing club facilities.

PRESENT PROBLEMS

The area geriatric hospital service has become more active since the appointment of Dr. Lloyd and increasingly so since the appointment of two more consultant geriatricians, Dr. G. Burston in

1969 and Dr. A. Windsor in 1970. Admissions to and discharges from Manor Park Hospital have increased as follows:—

Year	*Admissions*	*Discharges*
1966	1,300	530
1968	1,476	851
		Deaths and Discharges
1969	1,558	1,621
1970	2,056	2,090
1971	2,151	2,155

(Note that until the end of 1971 patients sent home at week-ends were classified as discharges and as admissions to hospital on their return).

There has been a similar increase in the Southmead Group. Day hospital facilities are, however, extremely limited, and at the end of the year there were only 18 places available at Manor Park Hospital.

There has been a similar extension of work in the psycho-geriatric field following the appointment of a consultant, Dr. M. Nicholas, in 1969, and a 28-bed joint psycho-geriatric unit has been established at Manor Park Hospital (13 beds are at present occupied by patients who are suitable for residential accommodation). About 50 to 60 Bristol patients are attending a day centre at Glenside Hospital.

Statistics presented to the Social Services Committee show that substantial numbers of elderly people in the community need admission to residential accommodation and many patients in geriatric and psychiatric hospitals could be discharged. Statistics presented to the Social Services Committee are set out in the following table:—

New Admissions to Committee's Elderly Persons Homes

	October 1970	*October 1971*
1. Holiday admissions	1	7
2. Permanent admission	32	32

Waiting List for admission to Elderly Persons Homes

	M.	*F.*	*T.*	*M.*	*F.*	*T.*
3. Living in circumstances as to be at risk ...	9	73	82	21	77	98
4. Living with friends, relatives etc. in unsatisfactory circumstances	12	25	37	13	37	50
5. Applications due to loneliness or for a specific home	22	42	64	11	35	46
6. Awaiting discharge from hospitals (for 1971, includes 2 females in PNH awaiting admission to Petherton)	15	67	82	11	75	86
7. Applications from outside the Bristol boundary	4	13	17	3	6	9
Totals ...	62	220	282	59	230	289

The Petherton figures for admissions and waiting list are included in the above.

Possibly associated with less winter epidemic diseases there has been a reduction in deaths in homes from 157 in 1969 to 145 in 1970 and 117 in 1971.

In a rapid review of the situation, it was estimated that there is a need for 300 to 400 additional beds divided between the hospital service and the local authority.

It has been necessary to take action under Section 47 of the National Assistance Act for the compulsory admission of elderly people to homes or hospitals relatively infrequently, in all 40 times in the period 1962–71 including 6 applications in 1971.

POSSIBLE SOLUTIONS

(a) Short Term

The Social Services Committee has increased its financial provision for community services in the financial year 1972/73 particularly in the following fields:—

	1971/72	*1972/73*
Night-sitters	4,274	5,150
Home Helps	356,121	400,260
Mobile meals	107,041	126,300
Social Workers (fieldwork)	266,844	367,495

The Public Health Committee has an extensive programme for the development of health centres, 7 of which are operational (total practice populations estimated 97,600), and an 8th (practice population estimated 14,700) will be completed early in 1972.

Age and sex registers of patients have been compiled, and for several years people on the lists of general practitioners at the St. George Health Centre have been offered medical examinations by a departmental medical officer on reaching the age of 65 years, and multiple treatable disabilities have been found[1]. It is hoped soon to establish similar sessions at Fishponds Health Centre and the William Budd Health Centre. A university lecturer in public health has screened patients between 45 and 64 years at Stockwood Health Centre, while the general practitioners themselves have organised a complete survey of patients aged 65 years and over, on their lists. General practitioners at Southmead Health Centre have started screening their patients at the age of 65.

A medical social worker from the Department of Social Services spends two sessions a week at Southmead Health Centre, while the former senior medical social worker is spending one session a week at each of the remaining health centres, as liaison officer helping general practitioners to select patients who require social case work, which is essentially long-term in nature, or in respect of terminal illness, and also undertake a limited amount of short-term case work.

Facilities were offered to consultant geriatricians, to hold out-patient sessions at Southmead and St. John's Lane Health Centres.

Seven-tenths of patients cared for by district nurses are 65 years or older, and old people make up 8 or 9% of the visits of health visitors. The first district nurse attachment to a general practitioner took place in June 1966, and the second in October 1967, and attachments have proceeded slowly to other practitioners since the middle of 1968, priority being given to doctors working in, or intending to work in health centres. At present district nurses are attached to 141 of the 200 general practitioners with premises within the city of Bristol and there are 40 other practitioners operating from outside the city with Bristolians as patients. It is hoped to complete arrangements for attachment quickly, following the receipt of replies to a further questionnaire from the remaining doctors, some of whom at first refused the offer.

Attachment of health visitors to general practitioners started only in September, 1970, and at present 19 health visitors are attached to 50 general practitioners. Experience in other areas with complete attachment schemes, is that the percentage of visits by health visitors to old people increases to more than 20.

As a result of these schemes, practitioners and patients enjoy a better service. The work done by district nurses increases by about one-third but travelling expenses are rather higher (9·5%), and there is a need for increased secretarial and clerical help[2].

A start has been made on the deployment of departmental medical officers, in areas corresponding to those of the Department of Social Services, and Corporation doctors are helping general practitioners in the identification of people suitable for registration under the Chronically Sick and Disabled Persons Act 1970, and in the selection of residents for homes for the elderly, and elderly mentally infirm.

General practitioners holding appointments as medical officers to Corporation homes are participating with geriatricians and representatives of the Departments of Social Services and Health in a team review of all residents, in accordance with the criteria in the Ministry memorandum on care of the elderly in hospitals and residential homes, issued in September 1965. It is hoped to ascertain those residents who would be more suitably accommodated in a home for the elderly mentally infirm, or in a geriatric or psychiatric hospital, and it is thought there might be a few who could be transferred to sheltered housing accommodation, particularly since some of the purpose-built homes have adjacent Corporation flats.

(b) Long Term

The Social Services Committee proposed an accelerated building programme of old persons' homes. There is close co-operation with officers of the Board of Governors of the United Bristol Hospitals and the South Western Regional Hospital Board, especially in the pooling of information about possible sites for new projects.

There is, of course, an urgent need for increased undergraduate and postgraduate education in the University of Bristol Medical School, on the problems of, and opportunities in, geriatric medicine and the social services, and for pre-retirement courses in the Institutes of Education administered by the Corporation Education Committee. The increased output of doctors will eventually make a considerable impact on this situation, but the overall position is unlikely to improve in the next two years.

SUMMARY

The Social Services Committee accepted the contention in paragraph 86 of Health and Welfare — the Development of Community Care (1966), that in determining the number of places in residential accommodation an important factor is the relationship between hospital and welfare services, and believes that the population in the administrative area of the present City and County of Bristol, will need by April 1976 at least 25 places per thousand population aged 65 and over.

The Committee recognised the need for additional domiciliary services (night sitters, home helps, mobile meals and social workers) and has made appropriate provision in the estimates for 1972–73.

There is a good working relationship with voluntary organisations, which operate (often with Council assistance) schemes of sheltered housing and residential accommodation, day centres and, to a varying extent, home visiting.

The development of boarding-out schemes for old people and the taking up of places in privately administered homes for the elderly, would have only a marginal effect on the present problems, because so many of those requiring residential accommodation are physically (and sometimes mentally) very frail. Longer term they might have possibilities.

The Committee co-operates closely with the Public Health and Housing Committees and there is cross-representation in membership. Members have taken into account the fact that on 1st April, 1974, Bristol "District" Council will remain a housing authority while health services are likely to be unified on the same date, in an area coterminous with Avon County Council. There is an urgent and continuing need for more "sheltered" housing accommodation.

References

1. THOMAS, P. (1968) "Experiences of Two Preventive Clinics for the Elderly", B.M.J. *1*, 357–360.
2. ROWLAND, A. J., DIXON, P. N. and HOLLIGER, B. (1970) "Evaluation of Home Nurse Attachment in Bristol", B.M.J. *4*, 545–547.

ASPECTS OF THE HOUSING OF THE HANDICAPPED

M. R. F. Reynolds

HOME DIALYSIS

For some years patients who have chronic renal failure have been receiving intermittent haemodialysis. This treatment cleanses the blood and removes the impurities that would normally be dealt with by the kidneys. Dialysis has to be repeated two or three times a week on an indefinite basis unless a kidney transplant operation is possible. Once a routine is established it is usually more convenient for the treatment to be carried out at night while the patients sleep so that they are free to have a full life during the day.

When artificial kidneys were first used the treatment could only be done in a hospital unit and this obviously imposed restrictions on the inidividual, particularly if they didn't live nearby. The continued development of the equipment and the increasing availability of specialised hospital dialysis units for training patients has made home dialysis the most desirable solution. Patients undergo initial dialysis in a unit, at Southmead Hospital, and when they feel confident of the techniques they are able to treat themselves at home.

Adaptation of a room in the home is carried out by the local authority and a team from the hospital, the housing department and the health department liaise to ensure a speedy and trouble-free conversion. The hospital authorities provide the artificial kidney machine and the water softening equipment and also arrange for the installation of a bedside telephone so that the patient can easily summon help. The adaptation, usually of an existing bedroom in the house, provides the necessary electrical and plumbing facilities and also a water resistant floor so that any water leaks can be contained.

The renal unit in Southmead Hospital takes patients from counties in the South West of England. They are selected on medical grounds and it is difficult to forecast in advance who would be most suited to home dialysis. This has led to a variable demand on the local authority over the last two years.

Two conversions were carried out in the city during 1970 and this year a further two have been completed. Four patients have recently been referred and plans are under way for home dialysis units for them early in 1972.

A bedroom conversion for home dialysis. The patient is looking at the control unit which has pumps and an emergency telephone on top. To the right is the dialysing part of the kidney machine.

Part of the converted bedroom showing the sink unit, work top, the water softener and dialysis part of the artificial kidney machine.

HOUSING PRIORITY ON MEDICAL GROUNDS

3,282 housing applications and requests for a transfer were assessed by a senior departmental medical officer during the year. Medical evidence is submitted by doctors in the city on behalf of these people and either housing points or gradings are allocated where appropriate. 743 applicants were given points and a further 141 were awarded top priority for urgent rehousing on medical grounds.

REPORT OF THE SENIOR MEDICAL SOCIAL WORKER

Marion Moncaster A.M.I.S.W.

Recent changes in social legislation have led to an increase in responsibilities for social workers and it therefore becomes increasingly important to devise new methods to identify social problems at an early stage, both to relieve distress and to make the best and most economic use of scarce social work resources.

One of the best methods of social work intervention may prove to be in general medical practice where the work can be undertaken in co-operation with GP's and health visitors who are already providing social care and social support to families known to the practices. In this context the report of Miss Mott on her study at Southmead Health Centre is of particular interest.

The preventive role of a social worker is well illustrated in the report of Mrs. Merchant and Mr. Dunn in the field of venereal diseases in the enterprise of devising a support system for girls at risk, in co-operation with members of the churches and other professional and voluntary organisations, through the medium of a centre at Brighton Street, St. Paul's.

The more traditional medical social work activities continued in the chest clinic and occupational health, and also in the after care of patients discharged from general hospitals until September 1971 when the majority of social workers were transferred to the new Social Services Department. A nucleus of social workers have remained on the staff of the Health Department. The Senior Medical Social Worker as liaison officer between Health and Social Services Departments on social work matters and the three other social workers in the specialised fields of venereal diseases and occupational health.

MEDICAL SOCIAL WORKER'S REPORT

Elaine Mott A.M.I.S.W.

In 1971 the Chest Clinic social workers extended their work in the community. The two medical social workers commenced part-time sessions with the general practitioners at St. George and Southmead Health Centres early in January. A six-month survey was set up, the main aim being to assess the amount of social work which arose at the health centre as a result of referrals by general practitioners and health visitors.

During the survey period, January—July 1971, the medical social worker was in attendance at Southmead Health Centre on Wednesday mornings for a total of 24 sessions, accepting from general practitioners referrals of patients attending on that particular day. The health centre was also used as a base from which to work in the area on Monday mornings for a total of 23 sessions. This facilitated greater communication with general practitioners, health visitors and other staff.

The total number of cases dealt with in this time was 59; 36 of these were referred by general practitioners, 20 by health visitors and 3 were self referrals. Where other departments were still actively involved with a case, the Medical Social Worker only dealt with a crisis situation before referring the base back to the original worker. In cases where the problem had become more specifically a medico-social problem, the Medical Social Worker then retained the majority of cases after consultation with the original departments involved.

With a relatively small number of cases, and in a part-time working situation, it would be unwise to draw firm conclusions. However, considering the work generated by the cases accepted by the Medical Social Worker (average 9·54 hours per week) and the fact that many referrals had to be refused because of the limitation of time allowed for work on this study, it seems likely that full-time attachment to the health centre would produce a full-time work load.

The general practice setting offers accessibility, continuity and a comprehensive approach to patient care. The problems that bring patients to consult their doctor frequently have strong medico-social components and the clinical nature of the general practice provides opportunities for intervening in their problems in a way which integrates the resources of medicine and social work. These socio-economic difficulties may form part of the pattern of a physical illness or they may be unrelated to physical disease.

A medical social worker's contribution to general practice can be summarised under the three broad headings of diagnosis and assessment, casework and the provision of links with social agencies. This survey at Southmead has shown that a medical social worker can make a helpful contribution in liaison with the doctor and the health visitor. The contact of a social worker with the sick is affected as much by such factors as the nature of the treatment they are undergoing, and their current physical resistance, as by their individual personalities and social circumstances. With her knowledge of the Social Services, and her training in social assessment, the social worker may help both general practitioners and community colleagues to ensure that health may truly be "a state of physical, mental and social well being", and not merely absence of disease or infirmity.

The experience of the medical social worker during her attachment at Southmead Health Centre has emphasised the need for medico-social help as an intrinsic element in any domiciliary medical care. The close co-operation that has been developed between her and the health visitors has been an invaluable asset and perhaps the most tangible acknowledgement of the success of medical social work attachment to the practice has been the number of patients who have returned to seek advice or help months after their original difficulties have been relieved and regular contact has ceased.

The experience of working at the health centre alongside the general practitioners, health visitors and district nurses suggests that medical social workers can play an important role in a general practice setting. With the new area teams of the Social Services Department established, there are great opportunities for forging closer and more effective links with workers in the health field. The full-time attachment of a medical social worker at each health centre would seem to be an ideal method of strengthening the links between medical and social services and providing the patient with the best possible continuity of care.

REPORT FROM MRS. JOSEPHINE MERCHANT AND MR. V. A. DUNN SOCIAL WORKERS AT THE SPECIAL TREATMENT CLINIC

The aim of the social workers is to contribute to the control of venereal and other sexually transmitted diseases by preventive measures. This has been attempted by quick and efficient contact tracing and follow-up of defaulters; by counselling and case work and by taking part in community work and health education.

With two social workers in post for the whole year it has been possible to accelerate the rate of follow-up and to extend the scope of the work.

Understandably patients are often apprehensive and reluctant to disclose the truth either concerning themselves or their contacts.

With adequate time to devote to the patient there is a chance to win confidence. When trust is established the problems emerge and with skilled interviewing and the right help offered the patient is enabled to recognise and to deal with the problems.

In this way considerable success has been achieved both in case finding and in case keeping.

Although sexually communicable diseases are not confined to any particular sections of the community or to any one age group, certain people are at high risk. Concentrated efforts have been made to reach these individuals. The object has been to give factual information; to make ourselves known and accepted so as to encourage attendance at the clinic; and in any way open to us to help those with social and/or personal problems, in order that they may become more stable and therefore less vulnerable.

In this context work with homosexuals brought about an increase in the number of men attending for treatment, with a subsequent reduction in the incidence of infection amongst male homosexuals.

The involvement of one social worker with the Centre for Girls in St. Paul's and of the other with youth club work, have been very important factors in facilitating preventive work at different levels.

The provision of a Day Centre and of overnight accommodation for rootless girls has certainly made it easier to locate and to hold some girls who needed treatment. It is also valuable to the girls to realise that clinic workers are interested in them as individuals and in their general welfare.

In the youth club setting the worker is able to counsel young people with difficulties of personal relationships and can ensure that the younger section of the community are made aware of the dangers of venereal diseases and of the help that is available to them. It is hoped that this preventive work will reduce the numbers of cases in future years.

In both these informal settings opportunities have been taken for group therapy.

Talks and discussions have taken place with medical and nursing students, health visitors

and health visitors in training, with groups of social workers, probation officers, Samaritans, school children and parents. A talk at a club for homosexuals was very well received and appreciated. A contribution was made to a day course for youth club leaders arranged by the Health Education Department and to two week-end conferences of club leaders. A talk was broadcast on B.B.C. radio.

There is still evidence of ignorance and misconception concerning the work of the clinic and also of the diseases. This is found even within the medical profession. Perhaps in the coming year a better integration with other services will be possible when the clinic is moved to the new Out-patients Department at the Bristol Royal Infirmary.

CHIROPODY

J. Pugh, F.R.S.H., M.Ch.S., S.R.Ch., Chief Chiropodist

The major difficulty in 1971 continued to be an increased demand, with shortage of staff and for most of the year there was a deficiency of two full-time chiropodists below establishment. One of these posts was filled in the Autumn. In January 1971 two of the part-time staff transferred to full-time work, as the equivalent sessions and domiciliary visits carried out by them equated two full-time posts.

It was not without significance that experienced members of the part-time staff only consider full-time posts when pay scales are significantly improved.

The period between treatments at clinics is usually 8–12 weeks, with small waiting lists at some clinics. The waiting period between treatments cannot be justified at longer than 12 weeks at a maximum, otherwise the value of any treatment is lost.

The domiciliary visiting service continued to be a source of complaint at the long waiting list, which at December 1971 exceeded 300 cases. It is usually three to six months before new referrals receive their first treatment and some family doctors have expressed disappointment at this delay but with present staff shortages it is inevitable.

It was a disappointment not to have found suitable accommodation for the appliance making for deformed feet. When and if this problem is solved it will make a significant improvement in maintaining posture in many cases.

CHIROPODY REPORT 1971

The statistics for 1971 are as follows:

1. Total number of patients treated			
A. *In Clinics and Health Centers*			
Elderly (women over 60, men over 65)		6,409	
plus discharges during year		1,173	
			7,582
B. Physically handicapped		110	
plus discharges during year		22	
			132
C. Expectant mothers		11	
plus discharges		4	
			15
Domiciliary visits			
Elderly		2,265	
discharges		736	
			3,001
Physically handicapped		36	
discharges		10	
			46
Expectant mothers		nil	
Residential Homes for the Aged			
Elderly		800	
			800
2. Total treatments for year in clinics			
Elderly		26,273	
Handicapped		427	
Expectant mothers		22	
			26,722
Domiciliary visits			
Elderly		13,098	
Handicapped		194	
			13,292
Homes for Aged			
Elderly (only)		3,495	
			3,495
School Chiropody Service			
In 600 sessions a total of 2,592 children received 2,592 first and 8,631 other treatments			11,223

3.

Summary	*Number treated*		*Number of treatments*
Elderly	11,383	Clinics, Dom., and Homes	42,866
Handicapped ...	178	,, ,,	621
Expectant mothers ...	15	,, ,,	22
Schoolchildren ...	2,592	,,	11,223
	14,168		54,732

OCCUPATIONAL HEALTH SERVICE

E. P. Hamblett
(Principal Medical Officer, Occupational Health)

INTRODUCTION

The establishment of the Section consists of a Principal Medical Officer, and the equivalent of one full-time departmental Medical Officer (in sessions spent on pre-employment and periodic medical examinations), a Social Worker, a secretary and two clerical officers. The Training Officer (Health Education) worked part-time in the service in connection with first aid and safety training.

Advice has been available from a part-time Consultant in Occupational Medicine to the equivalent of one consultant session a week.

The service has continued to serve the Bristol Waterworks Company, and to give advice to the Bristol Royal Workshops for the Blind.

MEDICAL EXAMINATIONS

(a) Pre-employment and periodic examinations

A total of 3,907 examinations in this category was carried out, including 44 examinations on employees of the Bristol Waterworks Company. A breakdown of the examinations by departments will be found in Table 1.

TABLE 1

MEDICAL EXAMINATIONS FOR 1971

	Pre-employment and periodic
Education	1,494
„ (School Meals)	863
Health	349
City Engineers	280
City Treasury	36
Social Services	355
Fire Brigade	74
Constabulary	91
Pilotage Authority	8
Public Relations	4
Port of Bristol Authority	17
City Architects	17
Waterworks	44
Establishment	76
Weights and Measures	1
S.W. Examinations Board	2
Ashley House Hostel	1
Town Clerks	28
Housing	47
Crematoria and Cemeteries ...	9
Museum and Art Gallery	11
Airport	22
Probation	4
City Valuer	6
Baths	13
Printing and Stationery	1
Entertainments	2
Libraries	1
For Other Authorities	51
	3,907

(b) Special examinations

At the request of departments 452 employees were given special examinations because of health-related employment problems. A small number of special examinations were carried out at the request of employees.

(c) Claims against the Corporation

In 38 cases whose claims were brought against the Corporation the Occupational Health Service arranged for consultant opinions which were forwarded to the Town Clerk.

(d) Periodic examinations

The following groups of employees were medically examined during the year.

School meals staff examined at intervals of 1–2 years.

School crossing patrols examined at 5-yearly intervals under 65 years of age and yearly thereafter.

Certain employees at particular risk from contact with lubricating and cutting oils were examined six-monthly as were a small number of employees at significant risk from ionising radiation.

Airport fire service staff had yearly vision tests.

SCREENING EXAMINATIONS

All female employees of the Corporation over 45 years of age continued to have mammography on request. The total number of persons examined clinically and by mammography was 298.

Cervical cytology has also continued for the general public including Corporation staff (This examination is not done by the Occupational Health Service).

All teaching staff and other employees of the Corporation coming in contact with children are offered yearly chest x-rays (but only about 25% of those employees specifically offered this accept).

FIRST AID TRAINING

A considerable increase in the first aid programme has been made during the year. This has been largely achieved b ythe setting up of monthly courses for Corporation employees (a small number of employees of outside industry have also been trained through these courses).

The courses are 5-day full-time ones in first aid (but also include a short period of instruction in safety at work). Acknowledgement is made to the co-operation of other departments in making these courses possible through provision of accommodation, the use of training equipment and the loan of instructors. During the year 117 persons received instruction in these courses and took St. John or Red Cross first aid certificates.

A voluntary register of first aiders in Corporation employment has been set up, and at the end of the year 202 names were entered in it. The register includes the names of all employees with valid certificates in first aid, but does not include members of the Police, Fire Brigade, Ambulance Service and Port of Bristol Authority. The register has already been of great help in planning courses and refresher courses, and in getting in contact readily with groups of people interested in first aid. It could also prove to be valuable in the event of a major disaster where numbers of first aiders might be needed at short notice. The register will be brought up to date at six-monthly intervals.

In addition to the full-time courses mentioned above the service has continued to give first aid training to other occupational groups. Training has been tailored to meet the particular needs of the various groups, e.g. employees of the Baths Department, school secretaries, Health Department nursing and dental staff. Certificates were gained by 137 candidates.

SAFETY AT WORK

The Principal Medical Officer (Occupational Health) has continued to chair regular (3-monthly) Safety Officers' liaison meetings. This type of meeting has proved of considerable value in putting over to a wide audience many matters concerning safety at work. On occasions an expert has been present to give advice and information on specific safety matters. For example one of H.M. Inspectors of Factories outlined the provisions of the Asbestos Regulations and of the Abrasive Wheels Regulations.

A report on "Current procedure in the Corporation concerning safety, including legal aspects, and any suggestions as to how improvements should be made" was prepared by a sub-committee from the Safety Officers liaison meeting (and departmental representatives) and this was passed to the Occupational Health Committee in February. The question of safety and fire precautions which form part of the report is being examined by the Establishment Officer in association with Heads of Departments.

SICKNESS ABSENCE

An investigation into sickness absence in the Corporation has been taking place during the year amongst manual workers in the City Engineer's department. Its aim is to improve knowledge of the causes and extent of sickness absence amongst these workers and to compare this with manual workers in other departments.

A survey has been carried out into premature retirement on medical grounds and a group of 50 consecutive employees referred to the Occupational Health Service for advice on continued employment by one Corporation Department was fully investigated. A summary of the results can be found in Table 2.

TABLE 2

Outcome	*Number of Employees*	*Percentage of Total*	*Average age (years)*	*Age range (years)*
Retired on medical grounds—				
(a) Totally unfit	11	22	61·7	54—64
(b) Fit for alternative work	22	44	61·4	48—64
Returned to full duty	14	28	49·6	28—63
Resigned	2	4	38·5	34—43
Service terminated by other means ...	1	2	46·0	—
	50	100	41·8	28—64

It will be seen that of 33 men recommended for retirement on medical grounds 22 (66%) could have continued working had suitable alternative work been available. The reasons the 22 men could not return to their former employment were as follows:—

(a) Inability to do heavy lifting in 9 men — as a result of chronic chest disease (4); heart disease (2); intervertebral disc lesions (2); and high blood pressure (1). The average age of the 9 was 54·3 years.

(b) Inability to do ladder work in 6 men as a result of chronic chest disease (3); arthritis (1); high blood pressure (1); and epilepsy (1). The average age of the 6 was 50·3 years.

(c) Inability to do outdoor work in 4 men all on account of chronic chest disease. Their average age was 52·8 years.
Most of the 22 in this category could have continued in employment had suitable sedentary indoor light manual work been available.

OCCUPATIONAL HEALTH SOCIAL WORK

Miss Margaret Bottoms, Cert.Soc.Sci.

The Social Worker dealt with 92 cases during the year, 19 new ones and 73 carried forward from previous years.

Given below are tables showing details of referrals, types of problems, and the employing departments concerned in *new cases*

Referrals

(1)	Principal Medical Officer for Occupational Health	10
(2)	Employer	3
(3)	Self	1
(4)	Other social worker	2
(5)	D.R.O.	1
(6)	Other employee	1
(7)	Sick return	1
		19

Type of Problem

(1)	Adjustment to early and inevitable retirement	6
(2)	Resettlement in work outside Corporation	1
(3)	Resettlement in work inside the Corporation	1
(4)	Financial	3
(5)	Need for support of one partner of married couple after decease of the other	1
(6)	Housing and accommodation	4
(7)	Personal	1
(8)	Employee struggling on at work while caring for sick relative	1
(9)	Health problem at work	1
		19

Department

(1)	City Engineer	8
(2)	Education	4
(3)	Health	2
(4)	Housing	2
(5)	P.B.A.	2
(6)	Social Services	1
		19

The type of problems listed is, in some cases, only one of several needing attention by the same person or family.

In one of the new cases of early and inevitable retirement, a young man of 23 years was suffering from what was thought to be a terminal illness and his mother, as well as himself, needed support. She had deep religious convictions which helped her to become reconciled to his eventual loss but she gained comfort from talking to a person outside the situation. Similarly, the young man was able to rid himself of some feelings of guilt about becoming a burden to her. Some home work was obtained for him from Bristol Council of Disabled Adults and this helped, a little, to take his mind off his illness and increasing disability.

In another of the new cases where the problem was mainly financial the social worker found, when visiting his wife that one employee incurably ill in hospital, had previously incurred a large amount of debts. A Councillor and a special Welfare Officer from the Department of Health and Social Security were also concerned to help and the social worker liaised with the latter in helping to pay off debts and in establishing a position of better economic stability.

The need for support after bereavement is well illustrated by the case of a man who had recently been retired in the normal way but, some months before retirement, had lost his wife and, since then, had shown some degree of disorientation. His supervisor and other colleagues had

tried to help him but felt he needed further assistance. After many attempts to find him at home the social worker succeeded in meeting him and in co-operation with the community worker from the University Settlement encouraged him to go to the Settlement's luncheon club where he found companionship, as well as a good meal. Soon after this he was able to find himself a job and took this in the certainty that if, at any time, he was no longer employed he could make use of the Settlement and was grateful for this security.

The work concerning on-going cases from previous years varied in intensity from casework to the giving of ameliorative assistance, such as a holiday or Christmas parcel or voucher.

One man, whose problem was solitary living was visited regularly in an attempt to encourage him to widen his social activities. Some success was achieved in this for he was introduced to the nearest Old People's Welfare day centre, where he helped the housebound people attending the centre, and thus earned their respect.

In several cases wives of employees were visited after bereavement, with the purpose of helping them to adjust to widowhood and find other interests. In one case, where a widow was extremely depressed the social worker, having learnt that one of her former interests had been old tyme dancing, encouraged her to attend classes, which proved very helpful in widening her social contacts.

In several cases where the only possible medical treatment was palliative, the social worker visited regularly to give practical help, if relevant, by providing information about community services and also by showing a readiness to listen unhurriedly to confidences about feelings, sometimes of resentment towards the medical profession for failing to effect a cure, thus releasing some tension. The fact that these and others were being visited by a social worker employed specifically by the Corporation to take an interest in them as employees, was especially meaningful to them.

Day centres both statutory and voluntary were used with great benefit to the persons concerned, and the Bristol Council for Disabled Adults continued to provide home work for several people. Additional help from the Bristol Council for Disabled Adults was the provision of light work to a man unable to do his normal work through sickness. He was a widower aged 50 who had an adolescent son to launch into life, and doing this light work helped to lessen his own feelings of uselessness.

Local charities were approached for monetary help in several cases, one of special interest being an annuity obtained for a severely disabled man who could only maintain independence because of the fact that relatives were living with him in his house. The annuity was given for the special purpose of providing him with a holiday each year, thus enabling the relatives also to take a holiday.

Three families were sent for caravan holidays by the Tuberculosis Voluntary Care Committee, and one family was helped to go to a caravan site at Berrow by another charity. Help was received with Christmas parcels and vouchers from the British Rheumatism and Arthritis Association and the Tuberculosis Voluntary Care Committee respectively. Frequent help was also given by the Women's Royal Voluntary Service with clothing for needy people.

The assistance given by these and other voluntary societies is very much appreciated by individuals and families who have benefited and by the social worker.

ENVIRONMENTAL HEALTH SERVICES

T. K. Aston, M.R.S.H., M.A.P.H.I.
(Chief Public Health Inspector from 16th August 1971)

G. J. Creech, M.B.E., C.St.J., F.R.S.H., M.A.P.H.I.
(Chief Public Health Inspector until 30th June 1971)

I have pleasure in submitting the report upon the work carried out in 1971 by the Environmental Services Division.

The fact which immediately comes to notice in preparing this report is the increase both in complaints and visits during the year. Experience indicates that the general public are becoming more aware of the environment in which they live and work, and are no longer prepared to tolerate deficiencies and adverse conditions.

The slowly improving staff position has also meant that with an almost complete establishment of Public Health Inspectors more attention can be given to general environmental inspections. The total number of complaints and enquiries received in the Division during 1971 was 16,898, whilst the number of visits made by field staff was 187,832.

Although most of the work of the Division has the backing of enforcing legislation, emphasis is strongly laid on informal action and persuasion. In a large department, however, with a wide range of environmental duties, it is inevitable that recourse must be had to legal action as a final resort. The number of cases taken was 51 involving 104 separate counts and a total of £1,505 in fines was imposed. Action taken under the Offices, Shops and Railway Premises Act, 1963 and the Food Hygiene (General) Regulations, 1970 accounted for £805 of this amount.

The increasing use of terms such as "environment", "ecology", "pollution" — even "Doomwatch" and the interest shown in the mass information and entertainment media has done a great deal to bring to the notice of the man in the street the pressures to which our planet is subject. At a more local level the emissions from the industrial complex at Avonmouth, the dangers of illegal dumping of poisonous waste, and the pursuance of a Clean Air policy has involved the Division in a comprehensive monitoring programme which is likely to be maintained, if not increased, as the years go by. There has also been an increase in the work connected with noise abatement and greater observation has had to be kept by day and night in order to identify the degree and the source of a particular noise.

Another aspect of environmental health to which more attention has been and will continue to be given is the field of Health Education, with particular reference to the hygienic control of food production, preparation and sale. This work, which is complementary to a system of regular food hygiene inspections, is gaining momentum and must continue to be a regular feature against a background of the increasing number of meals taken outside the home.

This report would not be complete without a reference to Mr. G. J. Creech who retired from the post of Chief Public Health Inspector in June. Indeed, the report is a summary of the work set in motion by him, and I am greatly indebted to both him and the staff for the way in which the Division has continued to perform its many complex functions during the changeover period.

GENERAL ENVIRONMENTAL HEALTH WORK

SUBMISSION OF PLANS

Plans received from the City Engineer and Planning Officer during the year numbered 875. As in the past these were perused by the district and specialist public health inspectors and it has enabled problems to be identified and resolved before works were commenced.

WATER SUPPLY

The City is supplied by the Bristol Waterworks Company and, as in previous years, the water supply has been found to be satisfactory in both quality and quantity. No contamination was found during the year which necessitated action by the Department.

The whole of the City's population is supplied by water mains direct to houses and there are, therefore, no standpipes.

The fluoride content of the water supplied to the Bristol area varies with the source of supply and remains the same as last year.

Barrow	...	...	0·04—0·20 p.p.m.
Chelvey	...	...	0·05—0·12 p.p.m.
Stowey	...	...	0·08—0·38 p.p.m.
Littleton	...	...	0·05—0·15 p.p.m.

SEWERAGE AND SEWAGE DISPOSAL

Arrangements for sewerage and sewage disposal have again been adequate and civil engineering works in connection with the prevention of discharge of sewage into the River Avon have continued. This year, work was commenced on the construction of inverted syphons under the New Cut and this is scheduled to be completed in 1972. This will then permit the sewage treatment works to treat 86% of the City's sewage.

The number of premises in the City not drained to sewers has been reduced by one and is now 325.

HOSTELS (Common Lodging Houses)

The three hostels, two run by the Salvationd Army and the other by the Church Army, have again proved to be satisfactory.

THE PET ANIMALS ACT, 1951

All pet shops in the City were inspected by the Corporation's Veterinary Officer and a public health inspector prior to a licence being issued. Routine inspections have been carried out and these numbered 188 of 32 premises.

THE ANIMAL BOARDING ESTABLISHMENTS ACT, 1963

The three licences issued last year were renewed after inspection by the Veterinary Officer.

THE RIDING ESTABLISHMENTS ACT, 1964

The two licences which were issued last year were both renewed after the premises were inspected by the Veterinary Officer.

THE THEATRES ACT, 1968

The established practice of applications for licences under this Act being passed to this Division has continued and this has involved 248 visits to 81 premises.

NOISE

During the year 185 complaints were received with regard to noise, which necessitated 2,778 visits being made by Public Health Inspectors. It was found necessary to serve six informal notices, of which two were complied with, recourse to the service of Abatement Notices being taken in respect of the remaining four cases where the nuisance had not been abated.

One such case involved noise and vibration emanating from a launderette. The source of noise emission was the air drying unit discharge terminals and worn bearings on a circulating pump. Noise attenuation was achieved by the fitting of sound absorption discharge boxes on the terminals and by the fitting of new pump bearings. The cause of vibration from the premises was due to old worn washing machines being placed on an uneven floor without anti-vibration mountings and also in direct contact with each other. Remedial action taken to overcome this problem involved the relaying of the floor of the shop, the fitting of new washing machines with proper anti-vibration mountings and the units being so placed that each machine was not in direct contact with the adjacent units.

For the first time, statutory action was taken by the Department to deal with the problem of noisy parties. Until this year, complaints of this nature were referred to the Police for action, but following a large number of complaints of this type of noise, a more effective remedy was sought. It was decided that where a statutory nuisance exists action should be taken in accordance with the Public Health Act 1936 and at the same time as serving an Abatement Notice also serving a Prohibition Notice under the provisions of the Public Health (Recurring Nuisances) Act, 1969. At the present time court action is pending in one such case. This action was considered essential to deal with certain premises which are used regularly up to twice a week for parties which usually last until 4.00 a.m. The premises are used in a role similar to that of a night club, the problem being accentuated by the large number of persons attending the parties and the high degree of amplification of West Indian type music.

As a result of one successful court case under the Noise Abatement Act in respect of a noise nuisance from a licensed club, several appearances have been made before the Licensing Magistrates where Officers have been subpoenaed to give evidence on behalf of the applicants. In one such case the Licensing Magistrates refused application for a licence but the decision was reversed on appeal.

The advice of the Specialist Inspector dealing with noise was sought during the year by the City Engineer and Planning Officer's Department, when tenders were being prepared for a main

drainage project. The proposals involve the construction of a main drainage foul and storm water culvert to serve the south-west district of the City in order to overcome the serious problem experienced in recent years of flooding of residential areas during prolonged rainfall. The scheme involves the construction of an underground culvert 24 feet in diameter and some four miles in length — the greater part of this distance being underneath residential property at depths of 40 to 100 feet. The location of the two access shafts where major drilling will take place are close to densely populated residential areas and, as the process of construction will involve the use of water pumps, air compressors and tunnelling equipment 24 hours a day, nuisance from noise is anticipated. In order to safeguard the residents against excessive noise levels, the tenders for the civil engineers have been so drafted as to ensure that properly acoustic attenuated plant and equipment is used at all times, and a maximum noise limit of 65 dBA has been specified for daytime operations (7 a.m. to 7 p.m.) and 50 dBA for night operations and all day Sunday. These levels were set following a full investigation of the ambient sound pressure levels during the day and night.

Experience over the last ten years has revealed that there are a number of deficiencies in the Noise Abatement Act, 1960, which was the first general legislation in the Country for the protection of the public from noise nuisance. As a result in November 1970, a working group under the chairmanship of Sir Hilary Scott was appointed by the Noise Advisory Council to study further the working of the Noise Abatement Act, to formulate proposals for strengthening it, and to report.

The Report "Neighbourhood Noise" was published during the year and contains several important recommendations and an outline of suggested provisions for a new Noise Abatement Act. Basically these are:

(1) All owners and occupiers of premises must employ at all times the best practicable means for minimising the emission of noise or vibration.

(2) It would be the duty of the local authority to inspect their district from time to time to identify noise or vibration which is or may be a nuisance, and to take action where appropriate by means of the service of a Noise Nuisance Notice. This would require the owner or occupier to abate the nuisance within a specified period of time and to execute such works as might be necessary. Alternatively action could be taken under the existing nuisance provisions of the 1936 Public Health Act by the service of a Noise Nuisance Prohibition Notice. It is proposed that appeals against Noise Nuisance Notices should be made to the Magistrates Court within one week or within the period specified in the Notice, whichever is the less. Fines for non-compliance with a Noise Nuisance Notice could be up to a maximum of £200 and at the same time, a Noise Nuisance Order, prohibiting a recurrence of the nuisance, could be made. Failure to comply with or knowingly contravene a Noise Nuisance Order could result in a £500 fine.

(3) The making of Noise Abatement Zones to deal with areas for which special control of noise and vibration is considered necessary. The purpose of these Noise Abatement Zones would be to reduce, or perhaps in some cases stabilise, the existing ambient noise level. This would be achieved by the setting of target levels of noise emissions from premises. These would be set by the local authority and different levels could be set for different parts of the Zone, for different types of premises and for daytime and nighttime operation. Noise in excess of the specified limits could be dealt with by the service of a Noise Abatement Notice which would require noise attenuation works to be carried out in a time specified, not being less than six months.

(4) Demolition and building contractors or persons wishing to invite tenders for construction or demolition contracts, could have power to notify a local authority of their proposals and then to require the local authority within a reasonable period, say two weeks, to serve a statutory notice specifying the requirements to be observed in the execution of the works for the prevention or mitigation of nuisance from noise or vibration. It is also proposed that the local authority should be able to serve notice in respect of works of which they had not received formal notification. If any notices served were not complied with, the local authority would have power to apply to a Justice of the Peace who would have authority to order the suspension of work until such time as the contractors could satisfy a Magistrates Court that they were able and willing to comply with the requirements of the local authority.

(5) The proposed Noise Abatement Act will not provide exemption from proceedings in respect of statutory undertakings but it will not, however, apply to noise and vibration from aircraft or road traffic.

(6) It is proposed that the Secretary of State be given power to specify by Regulations the sound power level of machinery offered for sale in the United Kingdom, and to make it an offence to use any air powered tool or mobile air compressor or other class or category of mobile equipment as specified by the Secretary of State unless it is effectively muffled. Failure to comply would result upon conviction of a fine not exceeding £500 and to a daily fine not exceeding £50.

The effect of the proposed new legislation will be to strengthen existing legislation, to shorten procedure in bringing about court action thus achieving more speedy attenuation of the offending noise, and to increase powers of control over what is termed "neighbourhood noise". It is suggested that work in the field of noise control should remain in the capable hands of the Public Health Inspector but that a specially selected group of highly qualified Inspectors should be appointed by the Department of the Environment and would deal with and control emissions from premises where the noise emissions are inherently difficult to abate. The premises for which these Inspectors would be responsible would be termed "Scheduled" premises, and the occupiers of such premises where scheduled equipment is installed or operated would be required to use the "best practicable means" to abate noise emissions therefrom.

ANALYSIS OF COMPLAINTS OF NOISE — 1971

	Source classification	*Number of complaints*	
A	*Industrial* (heavy)		
	General industrial operations	8	19
	Transportation of industrial products	1	
	Zinc smelting plant	1	
	Steam hammer	1	
	Scrap yards	2	
	Refuse disposal	1	
	Metalwork	3	
	Steam discharge	2	
B	*Industrial* (light)		
	Launderettes	4	33
	Bakeries	5	
	Garages	7	
	Refrigerators and deep freezing equipment	7	
	Extraction fans	4	
	Dust extraction	1	
	Power saws	2	
	Lift motors	1	
	Car washing	1	
	Wine bottling	1	
C	*Building and Road Works*		
	Building sites—general noise	6	27
	Pneumatic drills	15	
	Demolition	3	
	Compressors	1	
	Cement hoppers	1	
	Handrollers	1	
D	*Public Entertainment*		
	Juke box	2	13
	Music	3	
	Cafes	4	
	Clubs	1	
	Public House	1	
	Fairgrounds	2	

ANALYSIS OF COMPLAINTS OF NOISE — 1971 (continued)

	Source classification	*Number of complaints*	
E	*Transport and Road Vehicles*		
	Sewage disposal vessel	1	27
	Road traffic	14	
	Industrial site traffic	9	
	Railway undertaking	3	
F	*Noise from Public and Animals*		
	Radio and television	15	66
	Animals	16	
	Neighbours—general	20	
	Parties	11	
	Band practice	1	
	Milkman	1	
	Schools	1	
	Church Bells	1	
	Total		185

HEALTH EDUCATION AND TRAINING

As envisaged in last year's report there has been a significant increase in the work undertaken in the training of food handlers. A food hygiene training programme was developed at the beginning of the year the objectives of which are to give a basic understanding of food hygiene and to inform food handlers of their responsibilities under the Food Hygiene Regulations. The programme is flexible and consists of two or three sessions with a total contact time of approximately two and a half hours. The talks are amply illustrated with visual aids and they are usually given to groups of food handlers at their place of employment, management being dealt with separately. This work is under the control of the Specialist Inspector — Health Education and Training and he is now assisted by a public heatlh inspector full-time and a team of six inspectors on a part-time basis all of which have been specially trained for this work.

The response of the food trade has been most encouraging and a wide variety of firms involved in catering and food retailing have participated. Courses have also either been held or arrangements made for the food handling staff of all hospitals within the City. These are, of course, in addition to the well established courses which are run for the School Meals Service in Bristol. From February, when the programme first commenced, almost 1,500 food handlers have attended one of these courses. Members of staff have also participated in courses at the University and local Colleges including the Diploma in Public Health Course, Medicine in the Community Course for Medical Students, Veterinary Public Health Course and training courses for Health Visitors, Midwives and Nurses.

In addition a substantial number of talks have been given to local groups and organisations on a wide variety of environmental health subjects.

TRAINEE PUBLIC HEALTH INSPECTORS

Nine trainees were in training at the beginning of the year, four in the final year, one in the second year and four in the first year. Four more trainees were appointed with effect from the 1st September, three of whom were school leavers and the fourth, a young lady, is a University graduate.

As in past years the trainees have participated in the reciprocal training scheme arranged by the Western Centre of the Association of Public Health Inspectors and they have also spent time with the Bristol Waterworks Company, the Bristol Avon River Board and the City Engineer and Planning Officer's Department with regard to sewage disposal, trade effluent control and refuse collection and disposal.

HOUSING

The process of inspection, repair, closure and rehabilitation of unfit dwellings has continued steadily throughout the year. It has been noticed that a greater interest is being shown by owners, developers, architects and prospective purchasers in properties which are capable of repair. This trend has no doubt been influenced by the general effect of the increased grants which became payable under the Housing Act, 1969, becoming more widely known. During the year a total of

sixty-six Closing Orders were made on whole houses, a further fifty-four Orders being made on parts of buildings including a considerable number of basements, eleven Undertakings not to use dwellings for human habitation were accepted and one hundred and one unfit dwellings were demolished voluntarily by their owners.

A considerable amount of time is involved in discussing modifications and improvements to unfit dwellings and, as the result is usually a vast improvement and the addition of new homes to the City's housing stock, then this work is certainly worthwhile. Fifty-three such dwellings were repaired and improved during the year. The demolition of unfit houses in groups continued whilst a further number of unfit properties were demolished as a result of redevelopment schemes, road improvements, school extensions and the like. Public Health Inspectors made visits to 174 properties which were purchased for the Planning and Public Works and Education Committees and where the question of payment of subsidy was involved. As a result 115 Certificates of Disrepair were issued.

Routine inspection of basements has continued and these continue to reveal some appalling conditions in underground rooms. The worst examples being vaulted spaces beneath pavements, forecourts or gardens, and cellar-like rooms completely below pavement level, the only means of ventilation and lighting of which consists of an iron grid in the pavement with a small window beneath. There are many more basements in Bristol awaiting inspection and it is hoped that this activity will continue and result in either improvements being carried out or the closure of such unsatisfactory dwellings.

During the year enquiries relating to land charges searches and future housing action likely to be taken under the provisions of the Housing Act numbered 10,938, which is an increase of 15% over 1970. As a result of these visits it is often found that subsequent action in respect of either individual dwellings or groups of properties becomes necessary.

Houses in Multiple Occupation

The effect of the 1969 Housing Act, which encourages owners to convert large houses into self-contained units of accommodation, is playing its part in reducing the number of houses where several tenants share limited facilities. Inspection of houses in multiple occupation has continued on a limited scale resulting in improvements being made or, alternatively, such properties have become the subject of Closing Orders which upon becoming vacant the owners have been able to prepare a proper scheme of conversion into separate units. Meanwhile many houses which were occupied by one family have become multi-occupied, the net result being the elimination of some problems and the creation of new ones.

An amendment to the code of standards was made at the end of the year the effect of which was to increase the number of sanitary conveniences to be provided in relation to the number of occupants.

Owner Occupation

Approximately 53% of dwellings in the City are owner occupied and it is naturally assumed that these dwellings enjoy a high standard of maintenance having regard to the owner's interest in his asset. Such assumptions do not, however, always prove to be well founded and it is a fact that some of the worst cases of neglected houses prove to be owner occupied. The reasons for this may be financial, personal, mental attitude, family relationships or a variety of other reasons. Whereas a tenant may often complain of the conditions under which he is living, thus making the Department aware of such circumstances, an owner occupier tends to keep his affairs to himself and often the resultant deterioration has reached an advanced state before it reaches the attention of the Local Authority.

In one such case it was noticed by an inspector who was visiting an adjoining property that the rear of a house was in a poor condition, but when looking at the front of the house there was little to cause a passer-by to take a second look. However enquiries were made and a closer inspection of the rear of the property revealed that the rear garden was completely overgrown with brambles and fig trees to a height of some eight feet, and into which, many years before, the W.C. structure had collapsed. The whole of the scullery roof had also collapsed leaving the cooking and washing facilities exposed to the sky. Indeed it seemed almost impossible that the house was inhabited but after further enquiries and ultimately obtaining, though not needing to enforce, a Warrant to Enter, the occupier admitted an inspector to the house. The occupant was found to be a spinster aged 59 years living on her own, the property having been left to her by her grandparents. The filth, smell and general neglect was appalling, whilst the structural condition of the whole of the two storey rear annexe structure was on the point of collapse. During rain, water poured through both the annexe and main roofs reaching the ground floor and the remains

of the scullery roof were lying across the floor and cooker; such food as was prepared was being cooked on an open fire in the ground floor front room. In view of the lack of facilities, including the absence of a W.C., and the derelict state of the property, it is somewhat surprising that neighbours had not brought this to the attention of the Department. It became necessary to proceed under the Housing Act and ultimately a Closing Order was made and the owner occupier offered a Corporation flat which was accepted. Ironically such an owner occupier is entitled to seek compensation from the Local Authority under the 1969 Housing Act.

The location and solving of such unsatisfactory conditions stresses the importance of the duty placed on local authorities by Section 3 of the Housing Act, 1957 and Section 70 of the Housing Act, 1969. These sections require a local authority to inspect its district for the purpose of ascertaining whether conditions exist that warrant action under the Housing Acts.

Repair of Houses

A useful amendment to the Housing Act, 1957, was provided in the 1969 Act. This amended Section 9 and expanded the powers of local authorities to require the repair of dwellings which, although not unfit, need substantial repair. Such repairs could not always be satisfactorily dealt with under the nuisance provisions of the Public Health Act. Action has been taken in respect of a number of dwellings under these amended provisions and it has been found extremely useful in many cases when dealing with dwellings owned by large investment companies, usually involving houses built just before 1939. These houses, though generally sound, have developed such defects as broken glazing due to the rusting of steel window frames and defective hot water systems.

Plans

For some years an arrangement has existed whereby the City Engineer and Planning Officer forwards to this department plans submitted to him under Building Regulations and Planning Legislation, thus enabling public health inspectors to make observations on relevant matters. However, not all plans were forwarded in this way and it was found that as a result works were carried out to dwellings which, although complying with Building Regulations, did not meet the requirements of the Housing Acts. This is particularly important in the case of basement rooms where the specific requirements of the Underground Room Regulations, made under Section 18 of the Housing Act, 1957, are applicable. Towards the end of the year arrangements were made with the City Engineer and Planning Officer for additional plans to be forwarded to this Department for perusal in order that deficiencies could be taken up at an early stage and the necessary amendments made.

National House Condition Sample Survey

During October and November the Department of the Environment instituted the second such survey during which some 6,000 houses in England and Wales were inspected. This survey was first carried out in 1967 in order to make an assessment of the condition of the Nation's housing stock. The Ministry formed a team of twenty-six surveyors lent by local authorities to carry out this task which included one of the Inspectors from the staff of the Department's Housing Section.

Bristol was chosen once again as an area to be surveyed and assistance was given to the Ministry's Inspector who came to Bristol where some sixty-three houses were inspected. The houses inspected were the same as in 1967, the object being to compare results and thereby ascertain whether an improvement or deterioration of our housing stock had taken place in the intervening period. The results will be published by the Department of the Environment in due course and will no doubt prove extremely interesting.

MEAT INSPECTION

The number of animals killed for human consumption in the City increased by 3·8% over last year. A closer analysis shows, however, that only the throughput of pigs increased — by 13% at the Public Abattoir and 28% at the bacon factory — the through-put of the other food animals falling somewhat — cattle by some 8% and sheep by 11%. The Committee decided during the year not to apply for an export licence due to the high cost of the works necessary to meet the required standard. This decision was unfortunate for two reasons: first, because any substantial increase in throughput is most unlikely and second, because some existing users of the Abattoir who are interested in the export trade will undoubtedly be lost.

Parties of schoolchildren have again visited the Abattoir, usually as part of their studies of biology, but this year the number of these parties has increased. As in past years a substantial

number of specimens ranging from eyes to intestines and stomachs have been supplied to schools. The Blood Transfusion service has continued to take a daily supply of pigs' blood for research purposes and other research workers have spent a considerable time at the Abattoir.

All animals slaughtered in the City during the year have been inspected in accordance with the Meat Inspection Regulations 1963, as amended. Cysticercosis was found in only five animals, one cow and four steers, upon post mortem inspection, these carcases being subjected to the prescribed cold storage treatment. On the evidence of the number of cases in this condition found in Bristol and also the number of carcases sent for cold storage treatment in the City from the local authorities it is apparent that its incidence is on the decrease. Eight animals were slaughtered under the Brucellosis (Accredited Herds) Scheme and when the scheme really gets under way in this area this number will be substantially increased. There is concern at the degree of risk of contracting this disease to those involved in the slaughter and inspection of these animals and it is hoped that some prophylactic measure will soon be developed and made available to those at risk. Some 780 pig diaphragms were submitted to the Zoology Department of the University of Bristol for detection of Trichinella Spiralis and once again all proved to be negative.

The Department's appreciation must be expressed to Dr. H. R. Cayton, Director of the Public Health Laboratory, and his staff, Dr. H. D. Crofton of the Zoology Department, University of Bristol and Mr. A. D. Osborne of the Veterinary School, University of Bristol for their continued assistance.

Sampling

(a) Pet Shops

Details of the samples of cooked and raw meat and offal from pet shops and the knacker's yard for the detection of salmonella are given in the following table. All samples of raw meat are obtained from the knacker's yard before cooking and the samples of cooked meat from the knacker's yard and any pet shop selling pet meat. It can be seen from the table that although the number of samples taken has increased the incidence of salmonella detection has decreased.

	Knacker Meat		Horse Meat							
	Meat	Liver	Meat	Liver	Sewer Swabs	Bedding from Cattle Lairs	Butchers' Meat	Mesenteric Glands	Pigs Liver	Total
S. agama	—	—	—	—	4	—	—	—	—	4
S. anatum	—	—	—	—	1	—	—	—	—	1
S. bovis morbificans ...	1	—	—	—	—	—	2	—	—	3
S. brandenberg	—	—	—	—	1	—	—	—	—	1
S. chester	—	—	—	—	1	—	—	—	—	1
S. derby	—	—	1	—	—	—	—	—	—	1
S. dublin	1	1	1	—	2	2	—	—	—	7
S. eneteriditis	—	—	1	—	—	—	—	1	—	2
S. good	—	—	1	—	—	—	—	—	—	1
S. heidelburgh	—	—	—	—	1	—	—	6	4	11
S. indiana	—	—	—	—	—	—	—	1	—	1
S. makumira	—	—	—	—	1	—	—	—	—	1
S. montevideo	—	—	—	—	—	1	—	—	—	1
S. newport	—	—	1	—	—	—	—	—	—	1
S. schwarzengrund ...	—	—	—	—	1	—	—	—	—	1
S. stanley	1	—	1	1	—	—	—	—	—	3
S. typhimurium	1	—	—	—	2	1	—	—	—	4
S. virchow	—	—	—	—	—	—	—	1	—	1
Totals ...	4	1	6	1	14	4	2	9	4	45

The types of salmonellae isolated since the inception of the sampling scheme in 1961 are given in the following table:

	Meat	Liver	Heart	Kidney	Tongue	Kangaroo Meat	Butchers' Meat	Sewer Swabs	Bedding from Cattle Lairs	PIGS: Mesenteric Glands	PIGS: Caecal contents	PIGS: Liver	Miscellaneous	Total
S. adelaide	—	—	—	—	—	4	—	—	—	—	—	—	—	4
S. agama	7	3	1	—	2	—	1	12	—	—	—	—	—	26
S. anatum	1	2	—	—	2	3	—	1	—	2	1	1	1	14
S. arechavaleta	—	—	—	—	—	1	—	—	—	—	—	—	—	1
S. bahnenfeld	—	—	—	—	—	1	—	—	—	—	—	—	—	1
S. barietty	—	—	—	—	—	—	—	1	—	—	—	—	—	1
S. bovis morbificans	7	1	—	—	—	—	2	—	—	—	—	—	—	10
S. benza	1	—	—	—	—	—	—	2	—	—	—	—	—	3
S. brandenberg	1	1	—	—	—	—	—	1	—	2	—	—	—	5
S. chester	1	—	1	—	—	4	—	1	—	—	—	—	—	7
S. derby	2	—	—	—	—	—	—	2	—	—	—	—	—	4
S. dublin	37	25	7	1	4	1	—	10	4	2	—	1	—	92
S. einbuettal	—	—	—	—	—	—	1	—	—	—	—	—	—	1
S. enteriditis	1	—	—	—	—	—	—	—	—	1	—	—	—	2
S. fischerkiety	—	—	—	—	—	—	—	—	—	1	—	—	—	1
S. give	—	—	—	—	—	1	—	—	—	—	—	—	—	1
S. good	1	—	—	—	—	—	—	—	—	—	—	—	—	1
S. haelsingberg	1	—	—	—	—	—	—	—	—	—	—	—	—	1
S. heidelburgh	1	—	—	—	—	—	—	1	—	7	—	6	—	15
S. indiana	1	—	—	—	—	—	2	1	—	1	—	—	—	5
S. makumira	—	—	—	—	—	—	—	1	—	—	—	—	—	1
S. meleagridis	3	—	—	—	—	—	—	—	—	—	—	—	—	3
S. mikaivasema	—	1	—	—	—	—	—	—	—	—	—	—	—	1
S. minnesota	—	—	1	—	—	—	—	—	—	—	—	—	—	1
S. montevideo	—	1	—	—	—	—	—	—	1	—	—	—	—	2
S. muenchen	—	—	—	—	—	1	—	—	—	—	—	—	—	1
S. naigoya	—	—	—	—	—	—	—	4	—	—	—	—	—	4
S. newport	2	—	—	—	—	—	—	—	—	—	—	—	—	2
S. oranienberg	1	—	—	—	—	1	—	—	—	—	—	—	—	2
S. orion	—	—	—	—	—	1	—	1	—	—	—	—	—	2
S. panama	—	—	—	—	—	—	—	1	—	—	—	—	—	1
S. poona	—	—	—	—	—	—	—	—	—	1	—	—	—	1
S. reading	—	—	—	—	—	—	—	—	—	—	—	1	—	1
S. rubislaw	—	—	—	—	—	1	—	—	—	—	—	—	—	1
S. saint paul	1	—	—	—	—	—	—	—	—	—	—	—	—	1
S. san diego	—	—	—	—	—	1	—	—	—	—	—	—	—	1
S. schwarzengrund ...	—	—	—	—	—	—	—	1	—	—	—	—	—	1
S. singapore	—	—	—	—	—	—	—	—	—	1	—	—	—	1
S. stanleyville	—	—	—	—	—	—	—	—	—	1	—	—	—	1
S. stanley	2	1	—	—	—	—	—	—	—	—	—	—	—	3
S. taksiny	—	1	—	—	—	—	—	—	—	—	—	—	—	1
S. thompson	1	—	—	—	—	—	—	—	—	—	—	—	—	1
S. tennessee	—	—	—	—	—	—	—	1	—	—	—	—	—	1
S. typhimurium	33	18	9	8	4	1	—	22	2	13	1	5	—	116
S. var jena	2	1	1	1	1	1	—	—	—	—	—	—	—	7
S. virchow	—	—	—	—	—	—	—	—	—	1	—	—	—	1
S. zehlendorf	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Unidentified	7	—	3	—	—	3	—	2	—	5	—	—	—	20
New sero type	1	—	—	—	—	—	—	1	—	4	—	—	—	6
TOTALS	115	55	23	10	13	26	6	66	7	42	2	14	1	380

(b) Butchers' Shops/Meat Depots

Table 13 shows details of the samples of butchers' meat taken during the year and as can be seen only one sample of each of beef and pork proved positive. Both of these samples were identified as S. bovis morbificans and both were from the same shop in successive weeks. In order to ascertain whether cross contamination had occurred nineteen swabs were taken from equipment and working surfaces, but all proved negative.

(c) Pig Mesenteric Glands/Liver

The practice of submitting pig mesenteric glands and a sample of liver from the same animal was continued and while many of the positive samples were from the same supplier only in two instances were the liver and glands of the same pig affected.

MILK AND FOOD INSPECTION

New or Amended Legislation

The Fish and Meat Spreadable Products Regulations, 1968

These Regulations, which came into force on 15th March, 1971 supersede the Food Standards (Fish Paste) Order, 1951, as amended, and the Food Standards (Meat Paste) Order, 1951 as amended. They specify requirements for the description, composition, labelling and advertisement of meat and fish pastes.

The Ice Cream Regulations, 1967

These Regulations which came into force on 4th January, 1971, supersede the Food Standards (Ice Cream) Regulations 1959, and the provisions of the labelling of Food Order, 1953 which relate to ice cream.

They specify compositional requirements for ice cream and Parev ice, including any ice cream present as an ingredient of any composite article of food, and also specify requirements as to the labelling and advertisement of ice cream.

The Margarine Regulations, 1967

Date of operation 4th January, 1971. These regulations with amendments supersede the Food Standards (Margarine) Order, 1954, the Food Standards (Butter and Margarine) Regulations, 1955 (insofar as they relate to Margarine) and Part IVA of the supporting definitions in the Labelling of Food Order, 1953 as amended:

The Regulations:

(a) specify the requirements as to the fat, water and vitamin content of margarine.
(b) specify requirements as to the wording of labels and on tickets and notices displayed with margarine and in advertisements for margarine.
(c) restrict the use of the words "Butter", "Cream" and "Milk" on labels, tickets, notices and advertisements relating to the sale of margarine.

The Preservatives in Food (Amendment) Regulations, 1971

These amending regulations came into operation on 1st September, 1971 and

(a) impose limits on the amounts of sodium nitrate and sodium nitrite which may be added to bacon and ham.
(b) impose a limit on the amount of sodium nitrate which may be added to pickled meat and
(c) impose in respect of all pickled meat, a limit on the amount of added sodium nitrite which applied formerly only to cooked pickled meats.

Soft Drinks (Amendment) Regulations 1970

These regulations came into operation on 3rd November, 1970, and they extended, by one year, the period during which the words "permitted artificial sweetener" could appear in place of the word "Saccharin" on a label or a container of any soft drink which contained a permitted artificial sweetener. This period ended on 31st December 1971.

Trade Descriptions Act, 1968
Merchandise Marks Act, 1926

In December, 1971, a little known clause in the Trade Descriptions Act, 1968 came into force and, in effect, it repealed any Orders made under the Merchandise Marks Act, 1926, thereby removing the need for a number of foreign commodities to bear a label showing that they came from abroad.

The Food Hygiene (General) Regulations, 1970

These regulations, which became operative on 1st March, 1971, replace the Food Hygiene (General) Regulations, 1960 and 1962. Among the changes brought about by these regulations is a requirement that where reasonably necessary all open foods shall be kept either covered or otherwise effectively screened from possible sources of contamination while it is exposed for sale or during sale or delivery.

The other principal changes are:—

1. raw food which has to be milled or refined to make it fit for human consumption is no longer outside the scope of the Regulations.
2. before food is offered for sale it must be separated from any food which is unfit for human consumption.
3. animal feed must not be kept in any food room unless it is in a closed container that eliminates the risk of contamination.
4. any person handling open food must wear clean and washable over clothing, except in certain specified cases.
5. the business of packing or storing eggs, fruit or vegetables on farm premises is made subject to certain requirements.

Pharmacy and Poisons Act, 1933

Both the Poison Rules, 1971 and the Poison List Order 1971 came into operation on 21st June, 1971.

These rules revoke and reproduce with amendments the 1970 Poison Rules. The main changes are that the poison alpha-chloralose can now be sold by listed sellers of Pt. II poisons in preparations intended for indoor use in the destruction of rats or mice which contain not more than four per cent W/W of alpha-chloralose. This of course makes this rodenticide more readily available to the public. Other additions were made to both Part I and Part II of the list and certain changes were made in the provisions restricting the sale of strychnine and certain other substances, namely the addition of the poison cannabinol and its derivatives.

Blue Potatoes

A member of the public complained of what was described as 'blue' potatoes exposed for sale at a local general shop. Upon investigation it was found that the shopkeeper had purchased dyed potatoes from a passing lorry without realising that they had been graded and dyed with the intention that they be used only for animal feeding. The small quantity involved was immediately withdrawn and a suitable warning given to the shopkeeper, who had very little experience of the food trade in this country.

Unsatisfactory Food Premises

A report was received of a butcher's business operating from the kitchen annexe of a private terraced house and when the premises were visited the inspector found a queue of people waiting in the living room to be served. Inspection of the premises revealed eight offences under the Food Hygiene (General) Regulations and at subsequent Court proceedings fines totalling £30 were imposed. The business has now ceased to be run from the dwelling house and has been transferred to a nearby shop.

SAMPLING

Colouring Matter in Food

A wide selection of food was sampled after the 1st January, 1971 when the Colouring Matter in Food (Amendment) Regulations, 1970 came into force but none was found by the Public Analyst to contain Ponceau MX. In addition, stocks of artificial food colours were inspected in the major supermarkets, health food stores, chemists, and small local grocers and all were found to comply.

Meat and Fish Spreadable Products

Several dozen products were sampled during March and April for determination of the meat/fish content. Most of the known manufacturers' brands were chosen and the samples varied from beef, chicken, turkey, to crab, salmon, sardine, several claimed the addition of butter. The Public Analyst reported all to have a meat or fish content above the new legal requirement.

Drinking Water

The routine bacteriological sampling of drinking water continued throughout the year. Samples were again taken from the fourteen points situated at various parts of the city so as to give a

geographically representative sampling programme. Of a total of 224 samples only two received an adverse report and on both occasions the cause was thought to be due to recent excavation and road works in the immediate vicinity of the sampling point. Subsequent samples proved satisfactory.

Meat Products

Special emphasis was placed on meat products during the year, samples being submitted for the presence of preservatives, including both sodium nitrate and sodium nitrite, and also for meat content. Among the meat products sampled were faggots, beefburgers, porkburgers, scotch eggs, polonies, meat balls and over forty samples of canned meat. As well as the conventionalbeef and pork sausages a collection of sixteen types of continental sausage were submitted and these included such items as:— ham salami (100% meat); garlic sausage (98% meat); cervolat sausage (100% meat); paprika sausage (100% meat) and metwurst sausage (99%meat).

Only one adverse report was received and this concerned a beef sausage which contained a slight excess of sulphur dioxide (480 ppm against the statutory maximum of 450 ppm). The matter was immediately pursued with the manufacturers and the source was traced to the seasoning packs specially purchased for their recipe. Subsequent samples were satisfactory.

Metallic Contamination of Fish

Early in the year the Section was invited to participate in a collaborative survey of fish products for metallic contamination. The survey came about largely as a result of the disclosure by the U.S. Authorities in December, 1970 that undesirable levels of mercury in the form of methyl mercury compounds had been discovered in tuna fish. As far as this section was concerned, over 20 brands or types of Tuna fish were examined and later in the year this was extended to Herring Roes, Cod Roes and Brisling.

Shellfish

Towards the end of the year a comprehensive sampling programme was carried out and fish from various sources around Britain were examined for metallic contamination.

Milk

Bulk Collection

A considerable amount of milk is now being collected from the farms by bulk tankers for transferring to the city dairies. The Milk Marketing Board is encouraging farmers still using milk churns to change to bulk handling and perhaps in time the milk churn will become just another collector's item.

Bottle Caps

It has been reported during the year that the government intend to introduce a compulsory colour code for milk bottle caps, probably similar to those used by most large dairies. The intention is to ensure that the consumer can tell at a glance what type of milk is being offered for sale.

Brucellosis

Fourteen samples of milk were taken for biological examination and all were reported satisfactory.

An area by area eradication scheme was due to begin in November commencing in North West England and South West Wales.

FOOD COMPLAINTS

The statistics for the year show an increase in the number of food complaints received and these reached a record of 49 complaints in a single month. An analysis of the complaints is shown in Table 22 and there is a significant increase in the number of complaints received from persons resident outside the City who have purchased food from stores in the central shopping area.

ATMOSPHERIC POLLUTION

Smoke Control Areas

This year has been another disastrous year as far as smoke control area development in Bristol is concerned. During the 1970/1971 heating season Suspension Orders were made in respect of Bristol's Nos. 6, 7 and 8 Smoke Control Areas and these continued in force until 30th April, 1971. These were made only after considerable consultation with the Department of the Environment and the Solid Smokeless Fuels Federation who, at that time, predicted severe shortages of the authorised solid fuels. The weather during the months of January, February, March and April was mild and this, combined with the public's good sense of purchasing and stockpiling authorised fuel during the 1970 summer, ensured that no overall shortage of authorised fuel was

experienced. Unfortunately, the effects of allowing householders to purchase bituminous coal by the suspension of Smoke Control Orders will take some time to overcome. A considerable number of smoke observations made in the City's nine smoke control areas during the autumn has revealed that persons are still burning stocks of last winter's bituminous coal and, in some premises, the occupiers are unaware that the operative period of the Suspension Orders has expired. Obviously, one season's shortage of smokeless fuel will have an adverse environmental pollution effect for two seasons. Already the monitoring of last winter's smoke concentrations has revealed an increase over those for the similar period in 1970 and there is obviously a direct relationship between the concentration of smoke and the amount of bituminous coal burnt, even though climatic conditions favoured a reduction.

Supplies and sales of authorised fuel throughout the summer have been in excess of anything known before in the region. The supplies have been increased by the commissioning of new solid fuel production plants at Doncaster and in Leicestershire, whilst extension batteries have been brought into use at the National Coal Board's Phurnacite production plant in South Wales.

Importation of the authorised fuels Anthracine and Fireglo from France, Ancit briquettes and Synthracite and Extracite ovoids from Holland into the Bristol area have all boosted supplies to such an extent that by the end of December 1971, the Area Representative o fthe National Coal Board advised that all outstanding orders to domestic premises had been delivered.

In June, reports on two further Smoke Control Areas, comprising 12,533 premises and 4,726 acres, were submitted to the Committee for consideration. Although the strongest assurances with regard to fuel supplies had been received and in spite of the Government's concern at the slow rate of progress of smoke control, no Smoke Control Order was made. This was a great disappointment but there was, however, one item of progress which can be recorded in the Smoke Control Area programme and that was the coming into operation of the No. 10 Smoke Control Order on 1st October. This Area covers a total of 2,047 premises and 304 acres, and, although it is only a small area, it is one which has contributed a considerable amount of smoke pollution over the City Centre. It links the No. 6 Smoke Control Area on the south side of the City and the area formed by the Nos. 1 to 5 Areas around the City Centre and occupies an area of land adjacent to the River Avon, which over the years has regularly experienced inversion conditions.

Works of adaptation to fireplaces have continued throughout the year in both the No. 8 and No. 10 Smoke Control Areas, even though, in the case of the No. 8 Smoke Control Area the Order was fully operative. It was agreed by the Committee that, as considerable numbers of adaptations were still outstanding because of confusion by occupiers as to the meaning of Suspension Orders, applications for grant aid would be considered for the period up to 30th September, 1971. A total of 360 applications for grant were received, of which 293 were approved, and of these only 37 were in respect of works of replacement and adaptation in Corporation dwellings. The analysis of these applications in the Tables below again shows the continuing trend towards the piped fuels, electricity and gas, this trend being particularly pronounced in respect of adaptations carried out by private householders.

Smoke Control Order No 8	*Local Authority*	*Private*	*Total*
Number of applications received	42	101	143
Number of applications approved	31	100	131
Number not approved	11	—	11
Number not yet dealt with	—	1	1
Methods of heating installed:			
Central heating: (1) Electric	1	—	1
(2) Oil	—	—	—
(3) Gas	5	3	8
(4) Solid Fuel	7	5	12
Electric night storage heaters/fires	4	18	22
Oil heaters	—	—	—
Gas room heaters	10	34	44
Solid Fuel room heaters	4	8	12
Fan assisted/underfloor draught	—	20	20
Inset grates	—	17	17
Conversion sets	—	—	—
Ignition only	—	3	3

Smoke Control Order No. 10	*Local Authority*	*Private*	*Total*
Number of applications received	40	177	217
Number of applications approved	6	156	162
Number not approved	—	4	4
Number not proceeded with	—	4	4
Number not yet dealt with	34	13	47
Methods of heating installed:			
Central heating: (1) Electric	—	2	2
(2) Oil	—	1	1
(3) Gas	—	7	7
(4) Solid Fuel	—	4	4
Electric night storage heaters/fires	2	53	55
Oil heaters	—	2	2
Gas room heaters	1	134	135
Solid fuel room heaters	—	8	8
Fan assisted/underfloor draught	—	9	9
Inset grates	6	47	53
Conversion sets	—	—	—
Ignition only	—	1	1

Infringements of the Clean Air Acts 1956/1968

A total of 3,531 observations were made in connection with smoke emissions and these revealed—
40 contraventions of Section 1 of the Clean Air Act 1956
(emission of dark smoke from chimneys);
7 contraventions of Section 11 of the Clean Air Act 1956
(emission of smoke from chimneys of premises situated within Smoke Control Areas);
19 contraventions of Section 1 of the Clean Air Act 1968
(emission of dark smoke from trade premises) and 5 contraventions which were referred to the Alkali and Clean Air Inspectorate as the emissions were from scheduled processes.

Notices in accordance with Section 30 of the Clean Air Act, 1956 were served in respect of thirteen of the above-mentioned contraventions and these have resulted in five successful prosecutions to date in respect of offences under Section 1 of the 1968 Clean Air Act. One court case in respect of an emission of dark smoke from trade premises situated outside the City boundary is at present pending. This will be the first case taken in Bristol under Section 1 of the 1968 Clean Air Act in respect of an emission from outside the district, but it is an offence which has continued in spite of warnings thus leaving no alternative to legal proceedings.

The large number of infringements under Section 1 of the 1956 Act and the comparatively few court cases taken is due to the number of these emissions arising from hospital incinerators in the Bristol area. Smoke emissions from hospital plant which is worn and outdated, and which is being used to burn the ever increasing volume of plastics, are inevitable and have given rise to considerable problems this year. The only solution is the building of specially designed incinerator plants which have combustion chambers suitable for the combustion of plastics and which are fitted, in addition, with primary and secondary burners to ensure that the volatiles are completely burned before discharge to atmosphere.

Following discussions with officers of the Department, the Board of Governors of the United Bristol Hospitals have given their formal approval to the construction of one large incinerator which will serve all the hospitals in the Group. The problem of smoke emissions from the other hospitals in the City are being dealt with by the respective Management Committees.

Grit, dust and fume

Emissions of grit and dust from a metal treatment works mentioned in last year's Annual Report were kept under close observation throughout the year. Improvements have been achieved and the arrestment plant, consisting of two wet bath arresters and a bag filter, are completely cleaned and serviced once a week. New collection bins to receive the grit and dust from the bag filters have been provided which now gives an automatic emptying procedure without the problems of dust or spillage, and a set of mechanical vibrators are at present on order and, when installed, these will increase the efficiency of the bag filter arrestment plant.

The nuisance caused by cement dust, arising from a bulk storage cement hopper, which continued even though modifications have been carried out each year since its construction in

1960, was finally remedied by the complete renewal of the storage and mixing plant. Incorporated in these works was the fitting of water sprays which are brought into action whenever the loading of vehicles takes place.

During the year, new Regulations dealing with the levels of emission of grit, dust and fume were made. These prescribe specific limits on the quantities of grit, dust and fume which may be emitted from certain furnaces rated between 825,000 and 475,000,000 Btu's/hour, and furnaces of indirect heating appliances in which the material being heated does not contribute to the emission with a designated heat input of between 1,250,000 and 575,000,000 Btu's/hour. Any emissions in excess of those contained in the Regulations will constitute an offence. These Regulations came into force on the 1st November, 1971, in respect of new installations, but in the case of those constructed before 1st November, 1971 the operative date will be the 1st January, 1978. To enforce these Regulations in cases where excessive emissions are being emitted from a chimney serving a combustion process it will be necessary for the local authority to serve notice, under Section 7 of the 1956 Clean Air Act, requiring the occupier to record measurements of grit and dust emitted from the furnace in accordance with a BS specification and then to submit the results to the local authority. There are, however, two drawbacks to these requirements, First, in respect of the majority of furnaces to which these provisions relate, the occupier can counterserve a notice on the local authority requiring them to carry out measurements at their own expense. This presupposes that local authorities who wish to enforce this legislation must be adequately prepared in both qualified staff and equipment to carry out these highly technical tests. Second, the Regulations only apply to chimneys serving combustion processes, whereas many major sources of grit, dust and fume emissions dealt with in recent years have been from non-combustion processes.

This year there has been a rise in the number of complaints received concerning fume nuisance created by motor vehicle body repair works. Three cases were investigated and the Inspector's observations were confirmed by the use of the portable volumetric atmospheric pollution monitoring equipment and all related to an alleged nuisance arising from the emission of solvents and cellulose paint spray for which we have now established a reliable method of detection by the use of activated carbon granules as the filtering medium.

The serious fume and odour problem arising from hot enamelling ovens and reported in last year's report has been abated successfully by the selection of suitable osmic injectors in the discharge terminals serving the ovens. Since their installation, only one complaint of excessive fume emission has been reported by the residents of the area and, upon investigation, it was established that there had been a breakdown in the spraying equipment and this was immediately rectified.

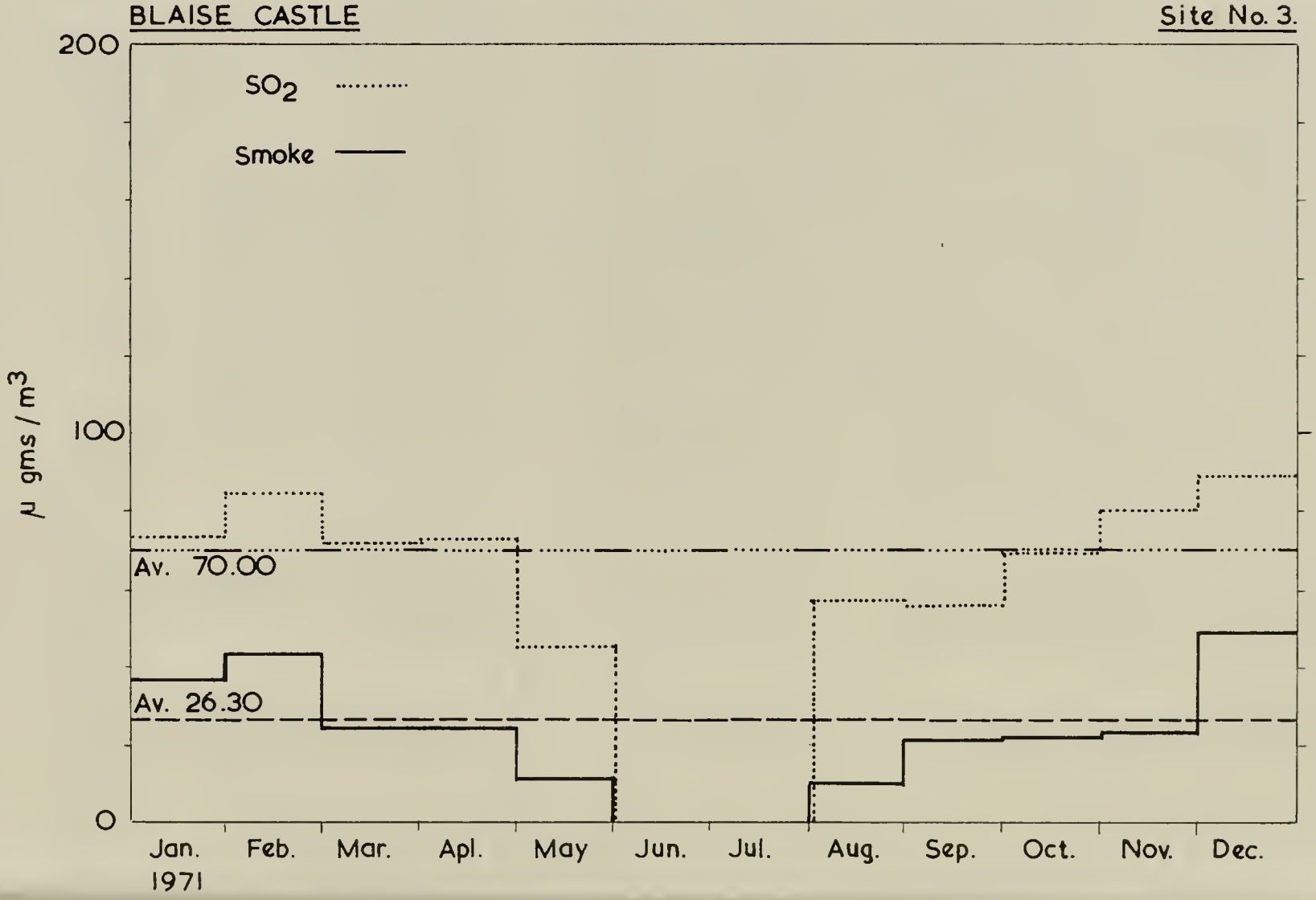
Air Pollution Monitoring

The seven monitoring stations set up in 1970 have continued to operate fairly successfully, even though difficulties have been experienced due to failure of the air pumps on several occasions. These failures accounted for five sets of negative average monthly measurements of the eighty-four so far received from Warren Spring Laboratory. The results show fairly conclusively that the highest concentrations of smoke are still to be found in residential areas, thus endorsing the view of the National Society for Clean Air and the Department of the Environment that approximately 80% of all smoke pollution is still derived from domestic sources. The concentrations found at the sites in Smoke Control Areas were, as expected, higher than would normally be expected due to the suspension of the Smoke Control Orders last winter.

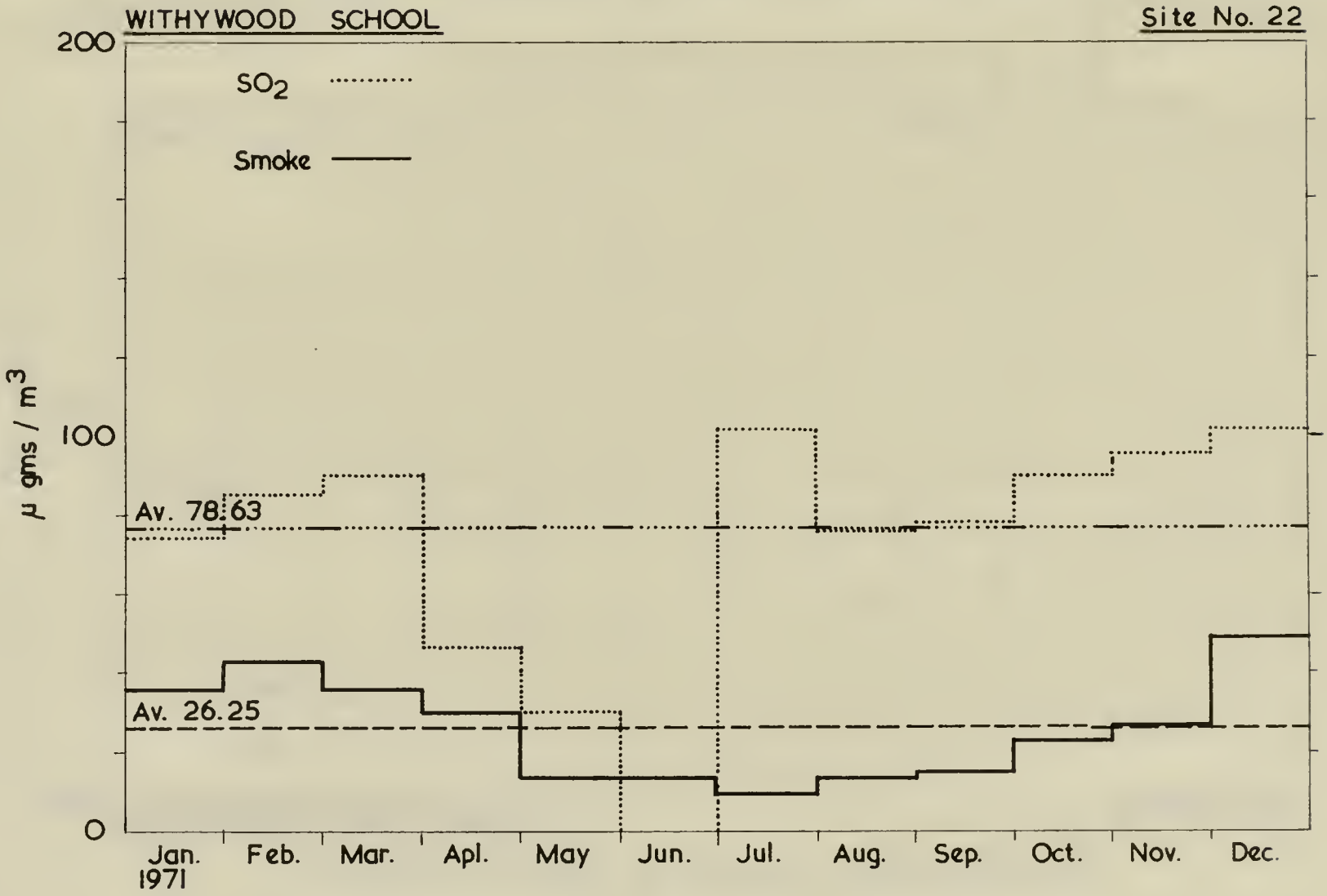
The mean average concentrations of smoke in the Bristol area range from 42·9 micrograms per cubic metre at the City Centre to 22·3 micrograms per cubic metre at Seabank Gas Works. The National average smoke concentration for 1969/1970 was approximately 70 micrograms per cubic metre and for sulphur dioxide was 110 micrograms per cubic metre whereas the average Regional distribution of smoke for the South Western Region for 1969/1970 was 29 micrograms per cubic metre and for sulphur dioxide was 66 micrograms per cubic metre.

The mean average concentrations of sulphur dioxide in the area range from a low 69·5 micrograms per cubic metre at the Seabank Gas Works to a high 119·4 micrograms per cubic metre at Avonmouth Signal Station. This high average is undoubtedly accounted for by the emissions emanating from Portishead Power Station.

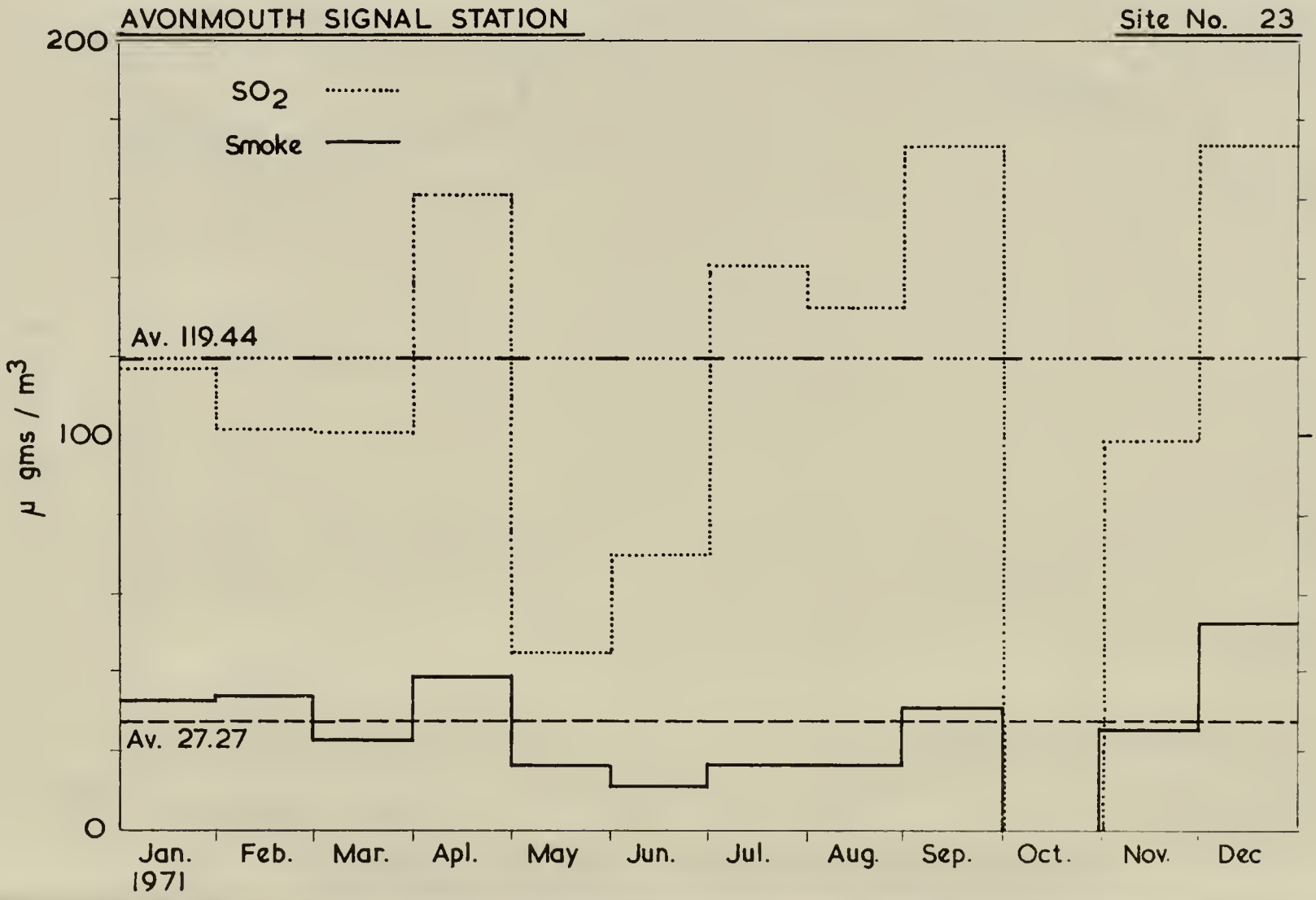
SULPHUR DIOXIDE & SMOKE CONCENTRATIONS



SULPHUR DIOXIDE & SMOKE CONCENTRATIONS



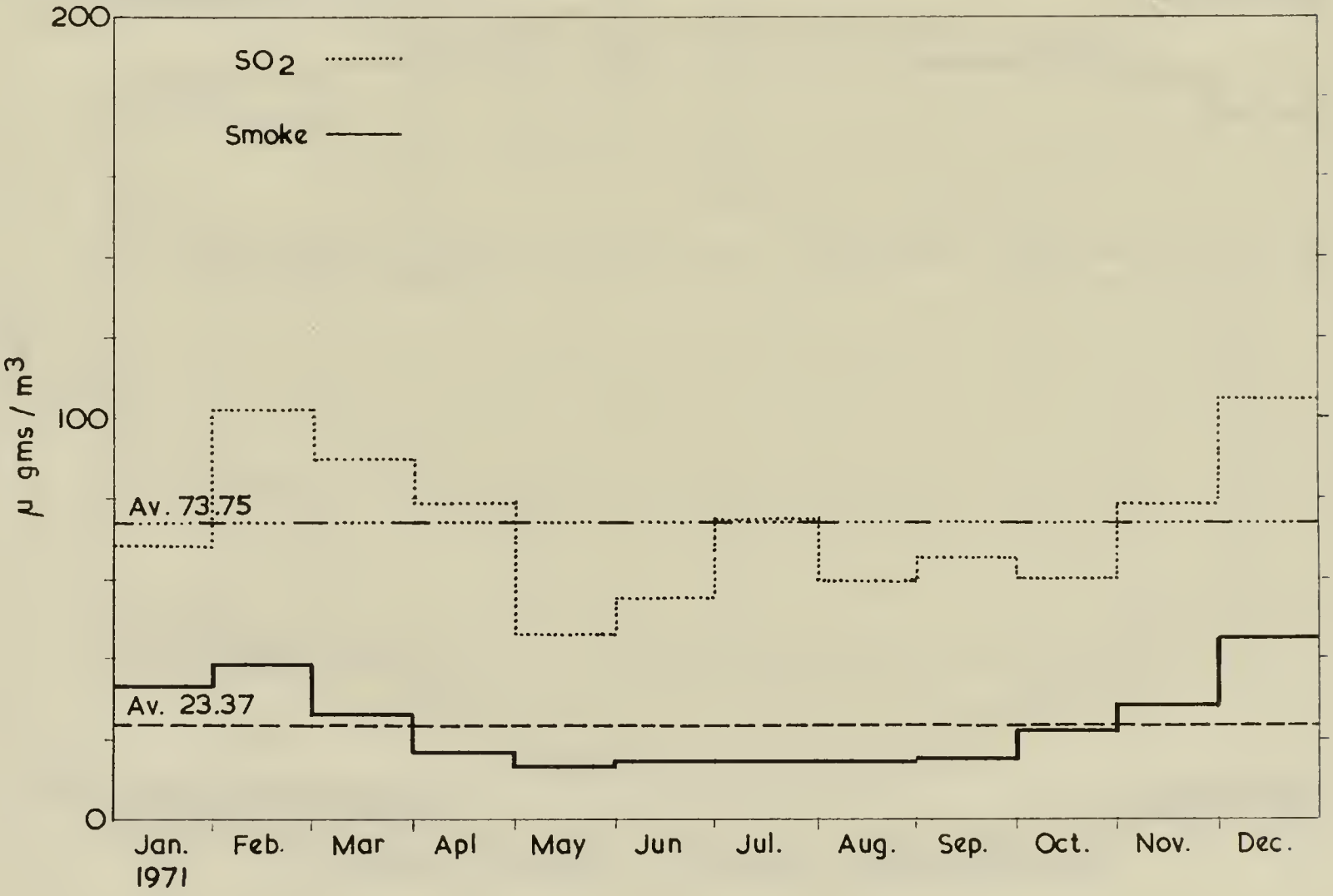
SULPHUR DIOXIDE & SMOKE CONCENTRATIONS



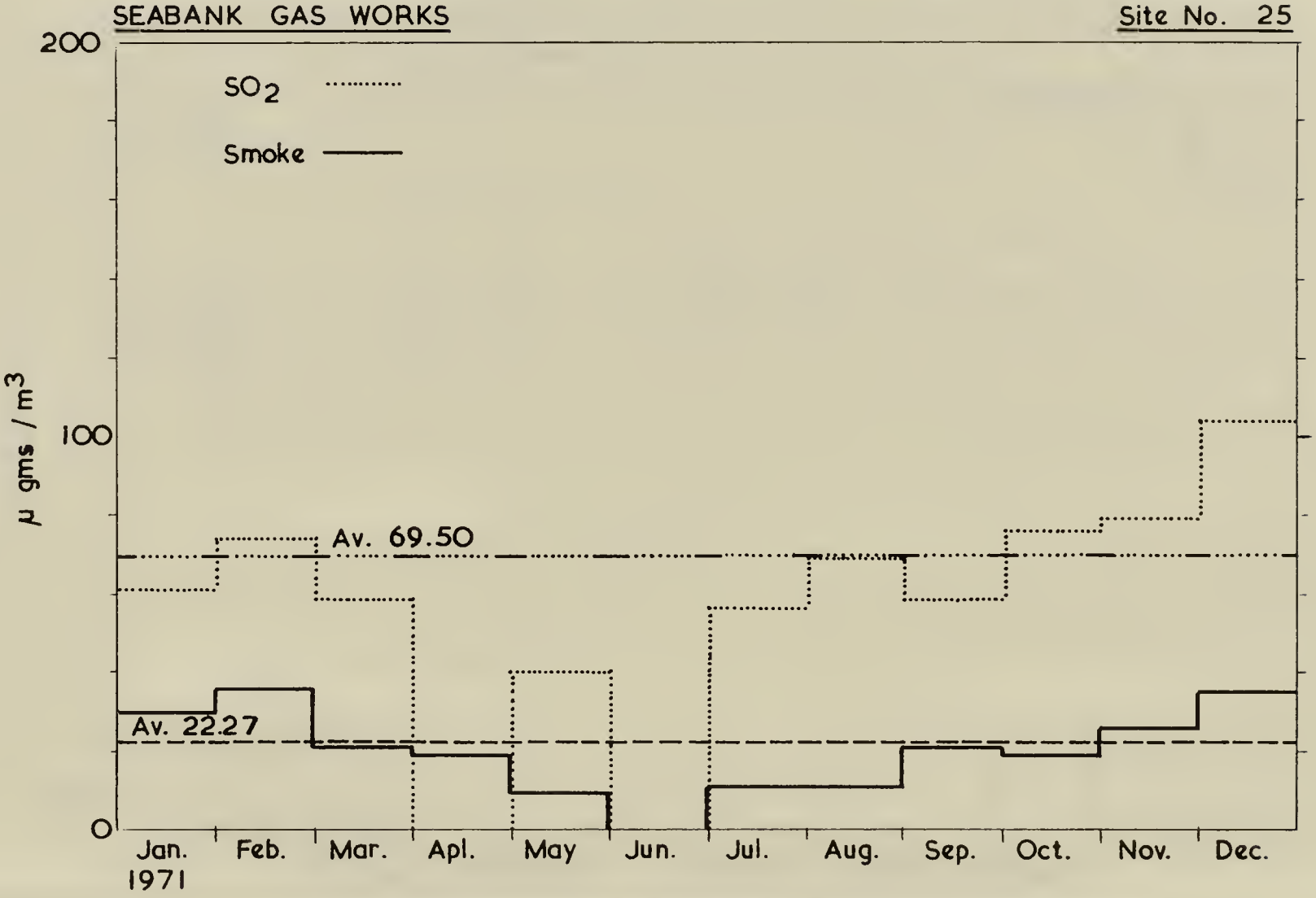
SULPHUR DIOXIDE & SMOKE CONCENTRATIONS

KATHARINE FARM

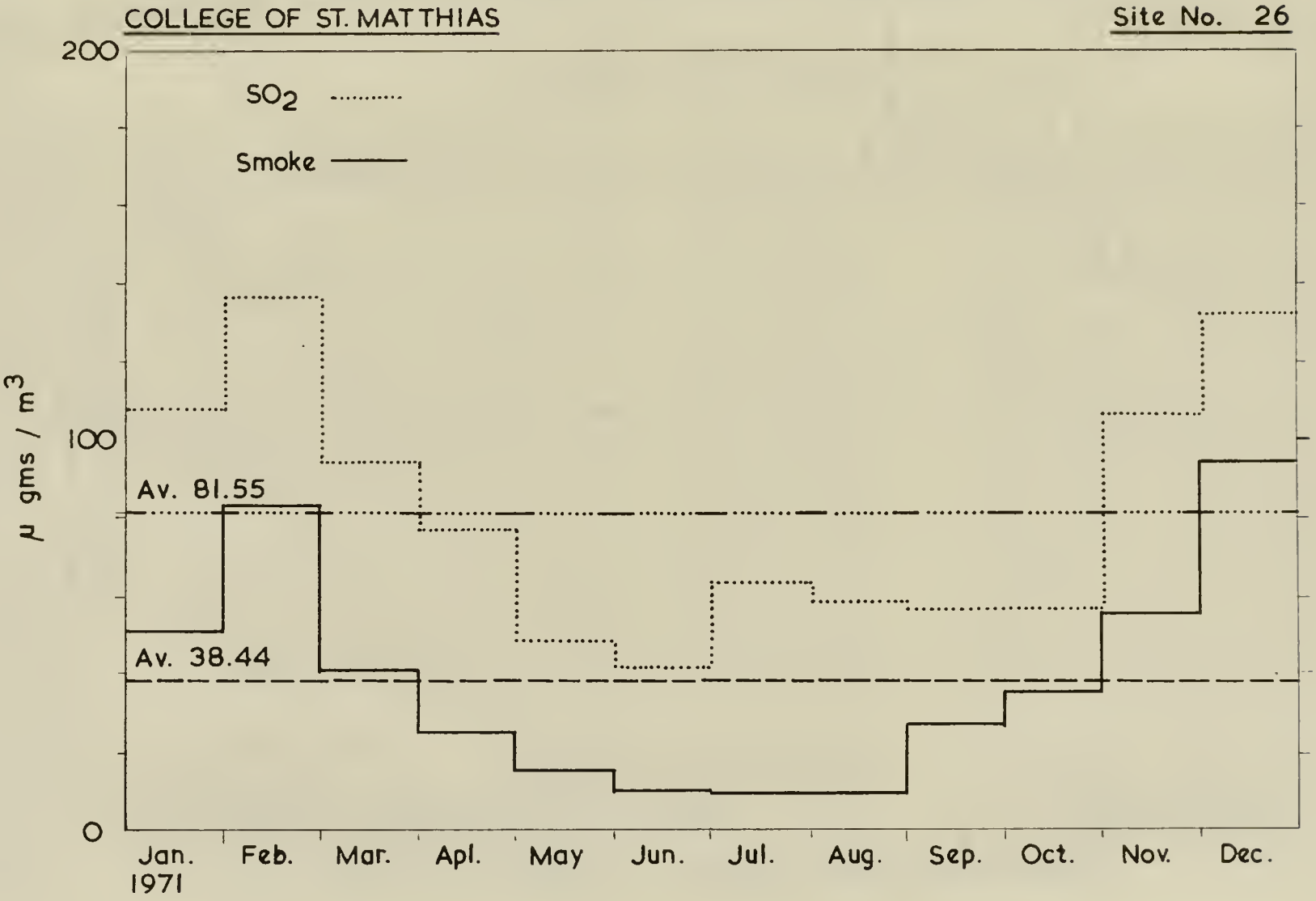
Site No. 24



SULPHUR DIOXIDE & SMOKE CONCENTRATIONS



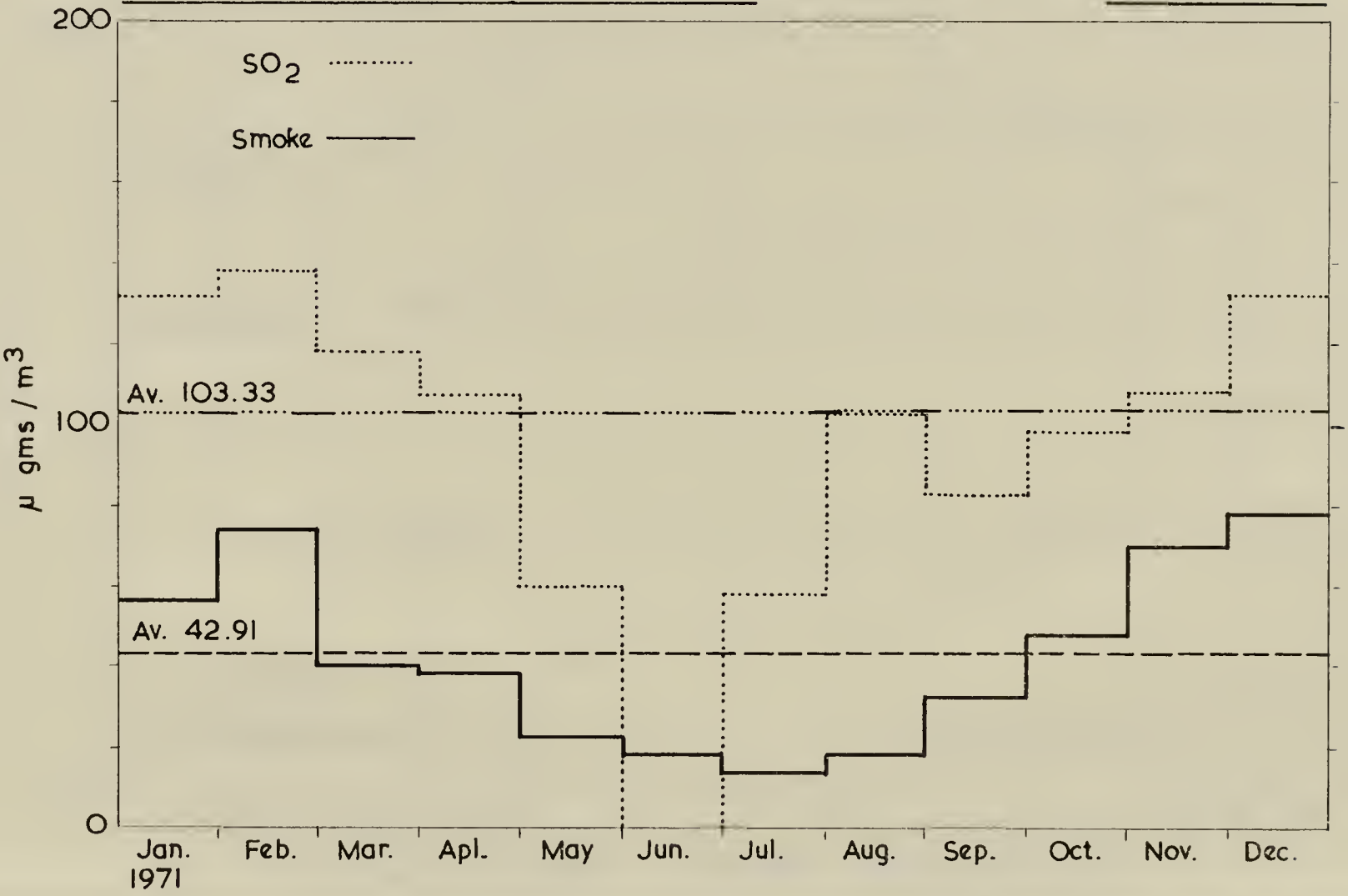
SULPHUR DIOXIDE & SMOKE CONCENTRATIONS



SULPHUR DIOXIDE & SMOKE CONCENTRATIONS

ST. CLEMENTS / METROPOLITAN HOUSES

Site Nos. 21/27



The eight port semi-automatic atmospheric pollution monitoring equipment which is designed primarily to investigate sulphur dioxide and smoke concentrations, has since 1970 also been utilised to investigate levels of trace elements suspended in the atmosphere. This has been achieved by the Department submitting the filter papers to the City Scientific Adviser after the smoke concentrations have been calculated, and he has readily carried out the analytical work involved in calculating the deposits of lead, zinc and cadmium. This work has been implemented due to the Local Authority's concern at the possibility of unduly high levels of heavy metal deposition in the area surrounding the Avonmouth Industrial Estate. In addition to the sampling carried out by the eight port monitoring equipment, standard deposit gauges and high volume sampling apparatus have been sited in strategic positions, not only in the industrial area but also within housing developments within a two mile radius of the industrial emitters.

In addition to the monitoring equipment which was set up, sampling has been carried out throughout the whole year of milk, hedgerow cuttings, bark from trees, rhine water, vegetables from kitchen gardens of houses as well as allotments in the area. All results obtained from the monitoring and sampling have been considered by the Atmospheric Pollution Technical Sub Committee and have also been submitted to the relevant Ministries for interpretation. During the year under review, a considerable amount of work on atmospheric pollution in the Avonmouth area has been carried out with the close co-operation and liaison at all times with the Department of the Environment and in particular, with the Atmospheric Pollution Division of Warren Spring Laboratory.

New furnaces and boiler plant

Notification in accordance with Section 3(3) of the Clean Air Act, 1956 was received in respect of 139 boiler and furnace installations in 99 premises. Of those notifications, 25 involved applications for chimney height approval under the provisions of Section 6 of the 1968 Clean Air Act, of which 22 were approved without modification. Three applications were not approved, however, as it was considered in each case that the height of the chimney for which approval was sought was insufficient to adequately disperse the products of combustion. In respect of the applications which were formally refused approval, a further modified application which complied, in full, with the conditions and height regarded as being sufficient to comply with the 1968 Clean Air Act, was submitted in each case and approval for the chimneys was subsequently granted.

Approval under Section 6 of the 1968 Clean Air Act of terminals serving diesel generators rated at or above an input equivalent to 1¼ million Btu's/hour was insisted upon in respect of four proposed installations in two premises in the City. As there is no Clean Air Act definition of "furnace" the Oxford Dictionary definition was used. This defines furnace as "a chamber which is used for the combustion of fuel". The Local Authority were thus able to control the heights of discharge of the products of combustion and, in one instance where the terminals had been erected without prior approval, effectively deal with a fume nuisance of carbon monoxide and sulphur dioxide created from diesel generator chimneys of insufficient height.

The increased number of furnaces during the year has accounted for an increase of 148,839,000 Btu's/hour heat output, the majority of which is used for space and water heating. Of the furnaces installed, the preference for oil as the fuel has accounted for a total 105,835,000 Btu's/hour output rating as against a 43,004,000 Btu's/hour output rating for gas.

The largest conversion to gas to date, and possibly the largest single conversion that Bristolians will ever witness, occurred in April, 1971. St. Anne's Board Mills converted their two boilers each rated at 186,500 lbs. of steam/hour from firing with heavy fuel oil, with a sulphur content of 4%, to firing with natural gas containing a negligible amount of sulphur. This change has completed the final cycle of events from solid fuel firing to oil in 1966 to natural gas in 1971, and has brought about an incidental reduction in atmospheric pollution of 20 tons/day of sulphur dioxide. This Company is now the second largest individual consumer of natural gas in the Country and takes the equivalent supply of that to the whole of Gloucestershire and Bath.

ADMINISTRATION OF THE OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

The operation of this legislation together with enforcement of the Shops Act and Young Persons Employment Act has continued to be the responsibility of the Offices and Shops section. Early in the year Mr. K. C. Holden, Specialist Inspector—Shops, retired and his post was subsequently filled by Mr. E. A. Bold, a Public Health Inspector in the section. For the greater part of the

year the Inspectorial staff has consisted of a Public Health Inspector, three Shops Inspectors and a Technical Assistant. An additional Public Health Inspector was seconded to the section in June for three months.

The good relations established with the District Factory Inspectors has continued; few demarcation problems arose and most of these were readily settled by amicable discussion. In the main these related to warehouses where responsibility for enforcement is not clearly laid down and it is to be hoped that any new legislation will define such premises more precisely.

The main work of the Section has been the continuation of the second cycle of general inspections of all known offices and shops in the City; these inspections proceeded throughout the year and were mainly in premises previously inspected in 1968.

Registration of Premises

As will be seen from details shown in Table 26, 521 premises have been newly registered during the year. In addition 658 obsolete registrations have been noted and removed from the register with the result that the number of premises remaining at the end of the year has decreased from 8,405 to 8,268. The work of tracing premises newly within or no longer within scope of the Act was done by the Technical Assistant, this allows the Inspectors to spend their time more profitably in carrying out general inspections and investigating accidents.

Inspections

During the year 1,852 general inspections of premises were carried out, an increase over the previous year of 124. 5,750 other visits were made to ensure that contraventions noted were abated, to advise on requirements when requested and to survey areas before inspection commenced. As stated last year experience gained during the last few years suggests that it would be desirable to inspect certain types of premises more frequently than has been possible in the past. Shortage of staff did not allow for this to be carried out during the present year but it is intended to commence such visits in the next year. The proliferation of new office premises during the year has given some cause for thought, it is felt that rather than leave such premises until the area is due for a general inspection some priority should be given so that compliance with the Act is ensured at as early a date as possible.

It is a requirement of the Hoist and Lift Regulations, 1968 that all lifts in premises within scope of the Act shall be examined by a competent person at prescribed intervals and his report shall be readily available for inspection and only in a few cases was it found that this was not so kept. Most of these were regional offices of country-wide organisations and in all but a few cases the report was forwarded for examination by return of post; this was accepted as complying with the regulations. It is further required that where examination of a lift by a competent person reveals unsafe conditions a copy of his report shall be sent within *twenty-eight* days to the enforcing authority. During the year 29 such reports were received, three of these indicated immediate attention was required to suspension ropes and the occupiers were quick to take the necessary action when reminded. In one case it was reported that a lift could not be satisfactorily altered. Advice that the lift should not be used was ignored and eventually legal proceedings were taken and a fine imposed. The use of the lift was then discontinued. In a further case following an unsatisfactory report discussions with the management of a large store led to a decision to replace the lifts concerned.

During the latter part of the year a survey was commenced of particular classes of shops in the city to ascertain whether the prescribed temperature was being maintained. Attention was given in the first instance to Radio and Television dealers where the practice of leaving the shop door open had been noted. It was found that even the low temperature required by law, 16°C (60·8°F) was not in all cases being reached and the occupiers concerned were reminded that legal proceedings would result if the offence were repeated. Visits were also made to butchers' shops towards the end of the year in order to ensure that effective means were provided for the staff to warm themselves and in a number of cases it was necessary for heaters to be resited. In one case, details of which appear elsewhere in this report, legal action was taken when the contravention continued over a long period.

It is apparent from information gathered by the Inspectorial staff that occupiers and owners are not giving enough thought to the proper illumination of their premises. Standards of lighting are quite often below those generally recognised as being reasonable, this being found not only in older type premises but also in newly constructed buildings. It has been found that not only has the level of illumination been low but there has been too great a variation in the lighting of passages and stairways when compared with working areas with the consequent danger that staff passing from working areas will not adapt quickly enough to the lower levels to see stair treads

or obstructions. An instance of incorrect design was found when in recently altered premises a foyer had a high illumination level due to the provision of intense directional lighting of the lift entrance. A reading of 75 lumens was recorded at the lift entrance whilst stairs leading from the foyer had an illumination level of only 2 lumens, thus creating a hazardous situation.

Copies of the leaflet 'THE SAFE USE OF FOOD SLICING MACHINES' were received from the Department of Employment and these were distributed to premises where it was felt they might be of value. It was found that most premises complied with requirements when visited and a further survey did not reveal breaches of the law. It was noted however that a majority of gravity feed slicing machines were positioned at such a height that loading presented difficulties. Appropriate advice was given and in some cases it was found that an adjustment to the guard was sufficient to overcome the problem without any loss of the protection given by the guard.

Although a large proportion of premises are found not to comply with all requirements of the Act, the contraventions are mostly concerned with such matters as not displaying an abstract of the Act or failure to keep first aid boxes up to the prescribed standard. It has become apparent as the second cycle of inspections has progressed that there is a greater awareness by all concerned of their responsibilities, due, in no small measure, to the work of the Department in the last few years.

Enforcement

The number of occasions on which it was found necessary to take legal proceedings decreased from fourteen last year to eight, action only being resorted to after repeated advice had failed to secure compliance with the Act. Two prosecutions arose out of an incident where a young person was found to have cleaned a slicing machine losing part of a finger in the process. Both the employing Company and the Manager were fined. A successful prosecution was also taken against a large firm of retail butchers for not providing conveniently accessible and effective means of enabling staff in one of their shops to warm themselves. A one bar reflective heater was provided but it was suspended at such a height, 8′ 6″, that employees could not warm themselves. Following the case the company had the heaters in their shops resited.

Accidents

189 accidents were notified of which 74 were investigated, particular emphasis being placed on those caused by falls to persons. No one cause could be determined and the majority were classed as being due to human error rather than defects in the premises.

No accidents caused by the bad stacking of goods in warehouses have been notified but it was found necessary on several occasions to draw attention to the need for proper stacking. It was felt that not enough consideration to this is given by some occupiers and in this connection the booklet issued by the Department of Employment 'Safety in the stacking of materials' fills a need and is recommended to all engaged in this type of work.

It was also found necessary to draw the attention of some employees to the fact that they have a duty not to behave in a manner which is likely to endanger the health and safety of persons working in premises.

THE ADMINISTRATION OF THE SHOPS ACT 1950/65 AND KINDRED LEGISLATION

These Acts have been virtually unchanged since the Shops Act 1950 consolidated all the Shops Acts from 1912 to 1938. It is commonly acknowledged that there is a need for reform in shop assistants' conditions and hours of employment, the changes which have taken place have been due to alterations in shopping habits and in many instances to the employers' desire to retain staff who have been moving into other employment which offers better working conditions.

Once again the Public Health Committee granted exemptions from the general closing hours requirement of the Shops Act for the Bristol Flower Show which was held at Durdham Downs in September and the Ideal Home and Trade Exhibition held at the Victoria Rooms in September. Exemption was also granted to the organisers of a display of international food held in connection with the International Year for Racial Harmony. Three requests from traders for exemption from the Early Closing Day provisions were granted by the Committee, these affect hairdressers in the Upper Maudlin Street, Perry Road and St. Michaels Hill area; booksellers, stationers and record retailers in the area of Clifton Down Road, Regent Street, Princess Victoria Street, The Mall and Boyces Avenue and all shops in Brislington Hill, Bristol Hill and West Town Lane Area.

Investigation into compliance with the Shops Acts, particularly in relation to the employ-

ment of young persons continues to be made in conjunction with routine inspections carried out under the Offices, Shops and Railway Premises Act, 1963. One of the main causes of the increase in reported contraventions of the closing hours requirements has been the belief amongst new shopkeepers that if no staff are employed or if staff are employed on a five day week then the closing provisions do not apply. Another, was the misunderstanding of the fact that Exemption Orders apply only to certain specified areas of trades. A number of the Exemption Orders made during the year resulted from applications by traders who had previously contravened the Act and who, when approached, decided to arrange with other traders in their area for an application for exemption to be made, in all these cases the Committee granted the exemption.

Once again Labour Officers and Trade Union Officials from nine countries including Malaysia, Malawi, Uganda, Indonesia and Panama visited the Department to discuss the enforcement of this legislation. The Annual Conference of the Institute of Shops Acts Administration was held at Folkstone in September and was attended by Mr. E. A. Bold, the Specialist Inspector—Shops.

PEST CONTROL AND DISINFECTION

Following the retirement of the Superintendent of the Disinfecting Station in April the pest control and disinfection sections were reorganised. The post of Specialist Public Health Inspector —Pest Control was redesignated to that of Specialist Inspector—Pest Control and Disinfection and is now responsible to the Chief Public Health Inspector for all matters relating to pest control, disinfection and the operation of the Disinfecting Station.

5,897 complaints of rats and mice were received during 1971 of which the majority, 2,983, related to mice infestations. This is the first year that complaints of mice have exceeded those of rats and is a further indication that the City is affected by the national problem of the inability to control mice with the anti-coagulant type of rodenticide. With an increase in mice infestations of more than 700 over the previous year it is clear that the overall position is becoming worse, and it is not likely that there will be an improvement in the situation until a completely new type of rodenticide is available.

The policy of the Public Health Committee in providing free treatment for mice in dwelling houses has been continued and although this ensures maximum notification it also removes the incentive for occupiers of premises to help themselves.

The number of rat infestations now appears to be static, and the situation is considered to be satisfactory considering the amount of redevelopment taking place in the City. Apart from the work carried out under the Prevention of Damage by Pests Act 1949, the routine work of rodent control has continued throughout the year with over 7,300 visits of a routine nature being made to building sites, void property, rivers, waste ground and the like.

Sewers and Underground Waterways

The treatment for rats in the City's sewers has continued involving a total of 20,383 visits to manholes on the sewerage system; of the manholes treated, only 7 per cent were found to contain evidence of rats.

In addition to the sewers, attention has also been given to the underground waterways of the City. The River Frome runs under the central areas of the City and lengths of this river were inspected and treated. The culverted Castle Moat has also been dealt with, but this was only achieved by using a boat hired from the Port of Bristol Authority. This method has also been used to inspect and treat the many miles of river bank and quay walls of the City docks and River Avon.

Disinfestation and Disinfection

The normal disinfestation measures against insects considered a hazard to public health continued throughout the year. In common with other parts of the Country a considerable increase in the number of cases of animal fleas has been experienced, a peak being reached in September. Other interesting insect treatments included fairly regular visits to treat police cells after the detention of verminous persons and a beetle infestation at a block of multi-storey flats which necessitated treatment in all the heating ducts.

The disinfecting facilities have been widely used, dealing with all types of infectious disease by treatment at the home and the sterilization of bedding and other articles. During the outbreak of dysentery at a local mental hospital, the Disinfecting Station provided full sterilisation of all used and soiled bedding.

Pigeon Control

The pigeon control programme has continued, as outlined in last year's Report and the pigeon population of the city was reduced by 18,129 birds. An increasing part of this work is giving advice to owners and occupiers of affected premises regarding the proofing of their building to prevent the entry of birds to roof spaces and other vulnerable parts of the structure.

ENVIRONMENTAL HEALTH INSPECTIONS (ALL LEGISLATION)

Complaints and enquiries received: 10,844

	Visits	*Re-visits*	*Total*
Dwelling houses (Public Health)	6,792	15,573	22,365
Dwelling houses (Housing)	3,293	4,041	7,334
Multiple occupation	539	1,822	2,352
Common lodging houses	8	10	18
Factories—power	284	560	844
Factories—non-power	187	20	207
Outworkers	18	21	39
National Assistance Act 1948	9	28	37
Nurseries/homes, etc.	43	36	79
Entertainment places	81	167	248
Moveable dwellings	242	983	1,225
Sites	406	1,880	2,286
Building sites	30	120	150
Injurious weeds	19	20	39
Offensive trades	147	29	176
Keeping of animals	47	199	246
Piggeries	113	12	125
Poultry	68	8	76
Pet shops	175	13	188
Noise	599	2,179	2,778
Smoke observations	824	2,707	3,531
Smoke Control Area visits	2,085	2,624	4,709
Chimney height visits	320	55	375
Inspection of boiler plant and furnaces	33	12	45
Dust and effluvia	342	1,233	1,575
Health education	376	129	505
Court attendance	55	37	92
Flooding	54	104	158
All other matters	2,508	3,788	6,296
Food premises—registrable	770	820	1,590
Food premises—non-registrable	2,610	3,054	5,664
Food vehicles/stalls	146	811	957
Butchers' shops	602	230	832
Meat markets	268	—	268
School kitchens	334	65	399
Cold stores	170	1	171
Food inspection	1,766	615	2,381
Visits re Containers	68	12	80
Dairies	36	15	51
Ice cream manufacturers	13	5	18
Pharmacy and poisons	283	13	296
Rag flock	34	7	41
Sampling	3,094	219	3,313
Infectious diseases	12	8	20
Food poisoning	122	52	174
Food complaints	825	824	1,649
Offices	866	8	874
Retail shops	780	—	780

TABLE 1 (continued)

Wholesale shops and warehouses	84	—	84
Catering establishments and canteens	114	—	114
Other visits L.A.Circ. 5. para 7	5,748	2	5,750
Sunday Entertainment Act	10	—	10
Young Persons (Employment) Acts	22	—	22
Shops Acts (retail)	2,748	10	2,758
Shops Acts (wholesale)	183	1	184
Totals	41,396	45,182	86,578

TABLE 2

SUMMARY OF NOTICES SERVED

(Excluding Housing Legislation)

	Informal		*Statutory*	
	Served	*Complied with*	*Served*	*Complied with*
Dwelling houses (Public Health)	330	198	128	67
Multiple occupation	16	4	1	2
Factories—power	18	15	—	—
Sites	2	2	1	1
Noise	6	2	4	1
Smoke observations	—	—	212	113
Dust and effluvia	2	1	—	—
All other matters	2	2	—	—
Food premises—registrable	30	14	1	—
Food premises—non-registrable	149	125	1	1
Food vehicles/stalls	4	4	—	—
Butchers' shops	97	75	1	—
Offices	270	226	—	—
Retail shops	346	339	—	—
Wholesale shops and warehouses	52	22	—	—
Catering establishments and canteens	38	23	—	—
Shops Acts (retail)	7	3	—	—
Totals	1,369	1,055	349	185

TABLE 3

SUMMARY OF REMEDIAL ACTION

(Excluding Housing Legislation)

Public Health	
New drains laid	8
Drains repaired	67
Choked drains cleared	1,686
Tests made	173

TABLE 3 (continued)

Repairs/Improvements to sanitary accommodation ...	87
Additional sanitary accommodation provided ...	6
Cesspools abolished	4
New and additional water supplies	2
Hot water installed	3
New/additional sinks provided	3
Wash basins provided	5
Roofs repaired	190
Dampness remedied	207
Other new and repair works	297
Yards paved and drained	9
Other nuisances abated	328
Houses cleaned/fumigated	83
Food store installed	2
Lighting improved	4
Ventilation improved	3
Heating provided	2
Exhumations	1
Keeping of animals—improvements	3
Aged and Infirm Persons	
Removals—voluntary	2
Removals—court order	6
Extension Order	5
Smoke infringements dealt with	84
Noise nuisance dealt with	103
All other matters	833
Food Hygiene	
Premises altered/repaired	20
Premises decorated/cleansed	153
Hot water provided	33
Sinks provided	18
Wash hand basins provided	21
Sanitary accommodation improved	50
Personal requirements dealt with	44
Equipment improved/replaced	37
Contamination risk reduced	75
First aid provisions	9
Lighting improved	8
Refuse storage improved	35
Stalls/vehicles improved	7
Food transport improved	2
Ventilation improved	7
All other matters	182
Offices and Shops	
Premises cleaned/redecorated	62
Heating provided/improved	16
Ventilation improved	76
Lighting improved	23
Sanitary accommodation improved	135
Sanitary accommodation provided	5
Washing facilities improved	30
Washing facilities provided	63
Seats provided	1
Eating facilities provided/improved	1
Floors, passages, stairs repaired	141
Machinery fenced	55
Other safety measures provided	133
First aid provisions	219
All other matters	536

TABLE 4

PROSECUTIONS AND COURT APPEARANCES

Under the Public Health Act, 1936

Section 94 and Section 1, Noise Abatement Act, 1960	Noise nuisance from live and recorded music at club.	Case found proven. Defendant ordered to pay £1 expenses.
Section 94	Nuisance arising from various structural defects.	28 day Nuisance Order made. £10 costs.
Section 94	Nuisance arising from various structural defects.	28 day Nuisance Order.
Section 95	Failure to comply with 2 Nuisance Orders.	Fined £50.
Section 94	Nuisance arising from various structural defects.	28 day Nuisance Order.
Section 94	Nuisance arising from various structural defects.	14 day Nuisance Order.
Sections 39 and 290	Leaking eaves gutter.	Fined £5.
Section 95	Failure to comply with Nuisance Order.	Fined £25 plus £5 costs.
Section 95	Failure to comply with 4 Nuisance Orders.	Fined £130 plus £10 costs.
Section 94	Nuisance arising from badly fitting front door.	28 day Nuisance Order.

Under the Housing Act, 1957

Section 16(6)	Permitting use of premises in contravention of an Undertaking not to use for human habitation.	Fined 50p per day for 76 days, Total £38.
Section 27(1)	Permitting use of premises in contravention of Closing Order.	Fined £5.
Section 27(1)	Closing Order. Using premises in contravention of	Fined £5.

Under the Food and Drugs Act, 1955

Sections 2 and 106	Mouldy cream slice.	Fined £20 plus £5 costs.
Sections 105(1)	Obstruction of authorised officers.	Fined £1 on first charge and £5 on second charge plus £3 costs.
Sections 2 and 106	Foreign body in a faggot.	Case dismissed.
Sections 2 and 106	Plastic finger dressing in hot cross bun.	Fined £25 plus £10 costs.
Sections 2 and 106	Mouldy pork pie.	Fined £20 plus £5 costs.

Under the Food Hygiene (General) Regulations, 1960

Regs. 23(1)(a); 24	3 offences.	Fined £30 plus £5 costs.
Reg. 16(2)	1 offence.	Fined £15.
Regs. 6; 8; 18 and 23	5 offences.	Fined £65.
Reg. 9(e)	1 offence.	Fined £10.
Regs. 6; 8; 23 and 24	6 offences.	Fined £120.

TABLE 4 (continued)

Regs. 16; 18; 23 and 25	7 offences.	Fined £30.
Regs. 6; 8 and 34	11 offences.	Each defendant fined £90 plus £10 costs — Total £200.
Regs. 6; 5 and 25		Each of 4 defendants fined £20 — Total £80 plus £10 costs.
Regs. 9(a); 18(3) and 25	4 offences.	Fined a total of £45.
Under the Food Hygiene (Markets, Stalls and Delivery Vehicles) Regulations 1966 as amended		
Reg. 8(c)	Smoking whilst in presence of open food.	Fined £25.
Under the Milk and Dairies (General) Regulations, 1959		
Reg. 27(1)	Foreign matter in bottle of milk.	Fined £30 plus £2 costs.
Reg. 27(1)	Foreign matter in bottle of milk.	Fined £25 plus £5 costs.
Reg. 27(1)	Dirty milk bottle.	Fined £15.
Under the Trade Descriptions Act, 1968		
Sections 1(a) and (b); 2(e) and 3(2)	Selling to prejudice of purchaser a substance alleged to be vinegar.	Fined £5.
Under the Pharmacy and Poisons Act, 1933		
Sections 18(b), (i), (ii); (e) and (iv)	Selling poison in Part II of the Poisons List (No. 2) Order, 1968 not labelled in prescribed manner and when not registered.	Fined £10.
Under the Clean Air Act, 1956		
Section 1	Emission of dark smoke.	Fined £25.
Under the Clean Air Act, 1968		
Section 1	Emission of dark smoke from the burning of car bodies.	Fined £25 on each of 2 counts — Total £50 plus £2 costs.
Section 1	Emission of dark smoke from the burning of car bodies.	Fined £20 plus £2 costs.
Section 1	Emission of dark smoke from the burning of car bodies.	Fined £5.
Section 1	Emission of dark smoke from burning of waste timber.	Fined £10.
Under the Offices, Shops and Railway Premises Act, 1963		
Sections 8(1) and (4); 9(1) and (2); 10(1); 16(1); 24(2)(a) and Regs. and 50(2) and Regs.	No artificial lighting to stockroom or W.C.; shop floor not properly maintained; no first aid box; abstract of Act not exhibited or booklet given to staff.	Fined £30 plus £5 costs.
Sections 18; 63; 64 and 65.	Young person exposed to risk of injury from slicing machine.	Company fined £10. Manager fined £10.
Section	No convenient, accessible and effective heating provided in Butcher's shop.	Fined £10.
Sections 4; 16; 63 and 64.	Floors not kept clean; dangerous flooring in store rooms and warehouse.	Fined £110 plus £10 costs.
Sections6(1); 63 and 64.	No effective provision for securing and maintaining a reasonable temperature in shop.	Fined £20.
Under the Offices, Shops and Railway Premises (Hoists and Lifts) Regulations, 1968		
Regs. 7(1) and (8)	Liftway not efficiently protected; max working load not marked on lift.	Fined £30.

TABLE 5

FACTORIES ACT, 1961

Prescribed Particulars on the Administration of the Factories Act, 1961

PART I OF THE ACT

1. Inspections for purposes of provisions as to health (including inspections made by Public Health Inspectors)

Premises (1)	*Number on Register* (2)	*Number of* *Inspections* (3)	*Written Notices* (4)	*Occupiers Prosecuted* (5)
(i) Factories in which Sections 1, 2, 3, 5 and 6 are to be enforced by Local Authorities	42	207	1	—
(ii) Factories not included in (i) in which Section 7 is enforced by the Local Authority	1,486	868	18	—
(iii) Other premises in which Section 7 is enforced by the Local Authority (excluding out-workers' premises) ...	131	153	2	—
Total ...	1,659	1,228	21	—

2. Cases in which defects were found.

Particulars (1)	*Number of cases in which defects were found* *Found* (2)	*Remedied* (3)	*Referred to H.M. Inspector* (4)	*Referred by H.M. Inspector* (5)	*No. of cases in which prosecutions were instituted* (6)
Want of cleanliness (S. 1) ...	1	1	—	—	—
Overcrowding (S. 2)	—	—	—	—	—
Unreasonable temperature (S. 3)	—	—	—	—	—
Inadequate ventilation (S. 4) ...	4	4	—	—	—
Ineffective drainage of floors (S. 6)	3	2	—	—	—
Sanitary conveniences (S. 7):					
(a) Insufficient	13	18	—	—	—
(b) Unsuitable or defective ...	89	79	—	—	—
(c) Not separate for sexes ...	7	5	—	—	—
Other offences against the Act (not including offences relating to Outwork)	10	6	—	—	—
Total ...	127	115	—	—	—

TABLE 6

FACTORIES ACT, 1961—PART VIII OF THE ACT—OUTWORK

(Sections 133 and 134)

Nature of work (1)	Section 133: No. of outworkers in August list required by Section 133 (1) (c) (2)	Section 133: No. of cases of default in sending lists to the Council (3)	Section 133: No. of prosecutions for failure to supply lists (4)	Section 134: No. of instances of work in unwholesome premises (5)	Section 134: Notices served (6)	Section 134: Prosecutions (7)
Wearing Apparel: Making, etc.	80	—	—	—	—	—
Wearing Apparel: Cleaning and Washing ...	—	—	—	—	—	—
Furniture and Upholstery ...	2	—	—	—	—	—
Stuffed toys	2	—	—	—	—	—
Textile weaving	2	—	—	—	—	—
Total	86	—	—	—	—	—

In addition to the above, outworkers are also involved in the following occupations:

Occupation	No. of o/w's	Occupation	No. of o/w's
Making Dolls	3	Crotcheting	2
Painting Dolls	3	Embroidery	1
Christmas Card preparation and packet labelling ...	1	Fabric/Machinery	2
Handicrafts	5	Rug Making	1
Rosettes	2	Sorting stamps	1
Leatherwork	3	Decorating pots	1
Dolls Clothing	7	Total	32

TABLE 7

HOUSING PROGRESS CHART

		From May 1955–1960	*1961–1965*	*1966–1970*	*1971*
Houses in Clearance Areas and already covered by operative Clearance Orders or Compulsory Purchase Orders	Pre-war 138 / Post-war up to 5.5.55 73 = 211	113	19	1	—
		72	—	—	—
Houses in Clearance Areas for which Clearance Orders or Compulsory Purchase Orders have been submitted to the Minister but have not yet become operative ...	Post-war up to 5.5.55 = 56	56	—	—	—
Number of houses subject to operative Demolition Orders	Pre-war up to 5.5.55 = 258	201	27	23	5
	Totals	442	46	24	5
Houses represented—Clearance Areas ...		3,592	746	127	—
Reported to Committee		—	425	35	4
Demolition Orders made on individual houses ...		157	27	38	5
Certificates of Unfitness—houses owned by Corporation		510	196	112	115
Undertakings given by owners to demolish ...		114	74	22	1
Unfit houses voluntarily demolished by Corporation and others		229	256	463	105
	Grand Totals	5,044	1,770	821	235

TABLE 8

ACTION UNDER HOUSING LEGISLATION

Houses inspected	*1969*	*1970*	*1971*
Section 9	1	—	—
Section 16	86	78	80
Section 18	93	54	67
Clearance Areas	—	—	—
For Report to Committee	61	13	—
Multiple occupation	3	3	—
Totals ...	244	148	147

TABLE 8 (continued)

Represented to Committee	*1969*	*1970*	*1971*
Section 9	1	6	12
Section 16	62	76	83
Section 18	83	62	79
Clearance Areas	1	62	—
Reported to Committee as unfit	—	—	4
Reported to Committee—in multiple occupation	3	—	3
Orders made			
Demolition Orders—(Section 17, Housing Act, 1957)	9	11	5
Closing Orders—Whole House (Section 17, Housing Act, 1957)	49	56	60
Closing Orders—Whole House (Section 17 ss.3. Housing Act, 1957)	—	—	6
Closing Orders—Underground Rooms and parts of buildings (Section 18, Housing Act, 1957)	63	47	54
Management Orders (Section 12, Housing Act, 1961)	—	—	11
Direction Orders (Section 19, Housing Act, 1961)	—	—	1
Undertakings not to use—(Section 16, Housing Act, 1957)	7	1	—
Undertakings to demolish—Housing Act, 1957	5	5	—
Demolition Order substituted for a Closing Order (Section 28, Housing Act, 1957)	1	—	—
Houses repaired			
Section 9—informal	—	—	—
Section 9—formal	—	—	—
Section 9—formal by Corporation in default	—	—	—
Undertakings to repair	6	8	—
Undertakings not to use, cancelled after repair	—	—	3
Other repairs	—	15	12
Closing Orders determined after repair—whole building	44	35	27
part building	18	18	23
Demolition Orders revoked	—	—	—

TABLE 9

FOOD HYGIENE (GENERAL) REGULATIONS, 1970

(Summary of food premises subject to the Regulations grouped in categories of trade carried on in them)

Trade	*Number of Premises*
Restaurants and Cafes	328
Public Houses	446
Hotels—Boarding Houses	96
Clubs—places of entertainment	115
Fried Fish shops	130
Wet Fish shops	37
Grocers	631
Greengrocers	231
Supermarkets	172
Factory canteens	131
Wholesale food premises	115
Chemists	124
School Canteens	153
Flour and Sugar confectionery	679
Bakers	46
Butchers	265
Dairies (processing)	5
Ice-Cream manufacturers	8
Meat Products manufacturers	9
Other manufacturers (shell fish, etc.)	14

TABLE 10

SUMMARY OF TOTAL FOOD CONDEMNED

	Tons	*Cwts.*	*Qrs.*	*Lbs.*	*Cans*
Meat and offal	135	18	3	11	—
Meat (canned)	5	15	1	4	7,547
Fish	6	—	2	4	—
Fish (canned)	2	11	—	14	1,276
Poultry	1	16	—	1	—
Fruit and vegetables	113	2	3	3	—
Fruit and vegetables (canned)	10	9	—	23	25,528
Fruit (dried)	—	2	—	18	—
Other foods	18	5	3	17	—
Other foods (canned) ...	3	2	1	10	10,191
Totals ...	297	4	0	21	44,542

TABLE 11

TOTAL ANIMALS SLAUGHTERED

	1969	*1970*	*1971*	*Percentage difference*
Cattle	14 019	15,733	14,432	— 8·26
Calves	625	555	325	— 41·42
Sheep	34.084	32,696	29.067	— 11·10
Pigs	17,765	20,123	22,852	+ 13·56
Pigs (Bacon Factory) ...	19,990	20,532	26,926	+ 31·15
Goats	8	10	22	+120·00
Totals ...	86,491	89,649	93,624	+ 4·41

TABLE 12

SAMPLES OF MEAT AND OFFAL FROM PET SHOPS

	Number			*Salmonellae*			*Percentage Positive*		
Sample of	*Raw*	*Cooked*	*Total*	*Raw*	*Cooked*	*Total*	*Raw*	*Cooked*	*Total*
(a) *Horse Flesh*									
Meat	78	—	78	6	—	6	7·70	—	7·70
Liver	53	—	53	1	—	1	1·89	—	1·89
Heart	6	—	6	—	—	—	—	—	—
Totals	137	—	137	7	—	7	5·11	—	5·11
(b) *Knacker Meat*									
Meat	52	77	129	1	1	2	1·92	1·30	1·55
Liver	29	6	35	2	—	2	6·90	—	5·72
Heart	11	4	15	—	—	—	—	—	—
Kidney	31	13	44	1	—	1	3·23	—	2·27
Tongue	20	3	23	—	—	—	—	—	—
Totals	143	103	246	4	1	5	2·80	0·97	2·03
(c) *Miscellaneous Samples*									
Pig Mesenteric Glands	258	—	—	9	—	—	3·49	—	—
Pig Liver	258	—	—	4	—	—	1·55	—	—
Totals	516	—	—	13	—	—	2·52	—	—

TABLE 13

SAMPLES OF MEAT AND OFFAL FROM BUTCHERS' SHOPS/MEAT DEPOTS

Origin	*Butchers' Shops and Meat Depots*	*Salmonellae*	*Percentage Positive*
Beef—English	21	1	4·76
Beef—Irish	3	—	—
Minced Beef	20	—	—
Pork—English	22	1	4·54
Totals	66	2	3·03
Sewer swabs from slaughterhouse—number submitted	99	14	14·15
Samples of bedding from cattle lairs—number submitted	29	4	13·80

TABLE 14

PIG AND POULTRY KEEPERS

Number			*Licensed to boil swill*		*Visits*	
1970	*1971*	*Use*	*1970*	*1971*	*1970*	*1971*
12	19	Keeping pigs only	7	12	—	—
16	12	Keeping pigs and poultry ...	14	9	78	151
13	11	Keeping poultry only	3	1	—	—
41	42	Totals ...	24	22	78	151

TABLE 15

SAMPLING OF KNACKER MEAT AND OFFAL FROM PET SHOPS

FOR SIX YEARS 1966—1971

Year	*No. of Samples*			*Positive Salmonellae*			*Percentage Positive*		
	Raw	*Cooked*	*Total*	*Raw*	*Cooked*	*Total*	*Raw*	*Cooked*	*Total*
1966	102	—	102	16	—	16	15·69	—	15·69
1967	93	—	93	45	—	45	48·30	—	48·30
1968	204	—	204	34	—	34	16·66	—	16·66
1969	116	—	116	14	—	14	12·06	—	12·06
1970	84	84	168	21	5	26	25·00	5·94	15·47
1971	143	103	246	4	1	5	2·80	0·97	2·03
Totals	742	187	929	134	6	140	18·07	3·21	15·07

TABLE 16

PUBLIC ABATTOIR AND BACON FACTORY — CARCASES AND PART-CARCASES—MEAT AND OFFAL CONDEMNED

A.—CARCASES AND PART CARCASES

Disease or condition	*Cows*		*Steers and Heifers*		*Calves*	*Pigs*		*Sheep*	
	Carcases	*Part Carcases*	*Carcases*	*Part Carcases*	*Carcases*	*Carcases*	*Part Carcases*	*Carcases*	*Part Carcases*
Abscess	—	—	—	1	—	6	116	2	1
Anaemia	—	—	—	—	—	—	—	1	—
Arthritis	—	—	—	—	—	—	7	2	—
Bruising/Fractures	2	4	—	3	—	—	25	5	—
Emaciation/oedema	2	—	1	—	—	4	—	70	—
Immaturity	—	—	—	—	—	—	—	2	—
Jaundice	—	—	—	—	—	2	—	1	—
Metritis (Acute Septic)	—	—	1	—	—	—	—	—	—
Peritonitis (Acute Septic)	—	—	2	—	—	—	—	3	—
Pleurisy and Peritonitis	—	—	—	—	—	25	—	—	—
Pleurisy (Acute Septic)	—	—	—	—	—	1	—	13	—
Pleurisy	—	—	—	—	—	—	55	—	2
Pyaemia	—	—	—	—	—	10	—	2	—
Pyelonephritis	—	—	1	—	—	1	—	—	—
Septicaemia	7	—	1	—	3	28	—	12	—
Swine Erysipelas	—	—	—	—	—	2	—	—	—
Umbilical Pyaemia	—	—	—	—	2	—	—	—	—
TOTALS	11	4	6	4	5	79	203	113	3
Cysticercosis	1	—	4	—	—	—	—	—	—

B.—MEAT AND OFFAL

		1969				*1970*				*1971*			
		Tons	*Cwts.*	*Qrs.*	*Lbs.*	*Tons*	*Cwts.*	*Qrs.*	*Lbs.*	*Tons*	*Cwts.*	*Qrs.*	*Lbs.*
Public Abattoir—Carcase Meat		7	10	2	1	10	1	3	14	10	18	3	21
Offal		84	16	1	8	86	9	2	19	63	0	0	4
Bacon Factory— Carcase Meat		5	8	2	17	3	0	0	15	2	7	0	8
Offal		14	3	2	26	10	11	3	25	14	17	3	3
	Total	111	19	0	24	110	3	2	17	91	3	3	8

TABLE 17

SAMPLES SUBMITTED TO THE PUBLIC ANALYST

	F	*I*	*Samples*	*Unsatisfactory*
Milk	6	486	492	1
Ice-Cream	—	88	88	—
Other Foods	16	947	963	14
Medicines and Drugs	—	45	45	—
Rag Flock	—	36	36	—
Fertilisers and feeding stuffs	9	323	332	43
Water—swimming baths	—	213	213	3
—others	—	13	13	—
Miscellaneous	—	177	177	64
Totals	31	2,328	2,359	125

TABLE 18

SAMPLES SUBMITTED TO THE BACTERIOLOGICAL LABORATORY

	Samples	*Unsatisfactory*
Milk—T.B. examination and brucella abortus	14	—
Pasteurised	446	26
Sterilised	37	—
Untreated	27	3
Ultra heat treated	5	—
Schools	15	—
Plant tests	39	—
Churn and bottle tests	355	79
Shellfish	66	18
Water	330	2
Ice-Cream	91	21
Miscellaneous	64	1
Totals	1,489	150

TABLE 19

SUMMARY OF BIOLOGICAL EXAMINATIONS OF MILK FOR BRUCELLOSIS AND TUBERCULOSIS

Year	*No. of samples found to be infected with*	
	Brucellosis	*Tuberculosis*
1962/66	14 from 9 producers	Nil
1967	Nil	Nil
1968	2 from 2 producers	Nil
1969	2 from 2 producers	Nil
1970	7 from 1 Producer	Nil
1971	Nil	Nil

TABLE 20

REGISTRATIONS

Under Section 16, Food and Drugs Act, 1955	
The manufacture of Ice-Cream	8
The storage and sale of Ice-Cream	1,163
The preparation or manufacture of sausages or potted, pressed, pickled or preserved foods	458
Under the Milk and Dairies Regulations 1959	
Dairies	52
Distributors	564
Under the Rag Flock and other Filling Materials Act, 1951	
Registered to use filling materials	18
Licensed to store Rag Flock	3
Under the Pharmacy and Poisons Act, 1933	
Listed sellers of Part II poisons	240

TABLE 21

QUINQUENNIAL LICENCES UNDER THE MILK (SPECIAL DESIGNATION) REGULATIONS, 1963

	as at 31.12.70	*as at 31.12.71*
To process pasteurised milk	5	5
To sell pasteurised milk	610	439
To process sterilised milk	1	1
To sell sterilised milk	607	387
To sell untreated milk	21	2
To sell ultra heat treated milk	23	104

TABLE 22

FOOD COMPLAINTS INVESTIGATED

Commodity	*FOREIGN BODIES*														
	Glass	*Metal*	*Insects*	*Personal Items*	*Building Materials*	*Transit/ Packing Materials*	*Others*	*Not true Foreign Bodies*	*TOTAL FOREIGN BODIES*	*Mould, etc.*	*Dirt, etc.*	*Incorrect Labelling/ Misrepresentation*	*Abnormal smell/taste/ colour*	*Others*	*GRAND TOTALS*
General foods	3	5	22	—	—	—	15	—	45	20	2	1	11	37	116
General canned foods	—	2	8	—	—	—	4	1	15	4	—	—	15	12	46
Drinks (inc. ice-cream)	—	—	1	—	—	—	2	—	3	—	1	—	3	4	11
Milk	1	—	1	—	1	—	8	1	12	—	18	—	—	6	36
Bread	2	1	6	—	1	—	21	1	32	18	3	—	—	5	58
Confectionery (excl. meat products)	—	1	4	—	—	1	5	—	11	18	—	—	—	—	29
Meat and meat products	1	1	3	—	—	—	6	—	11	21	—	—	14	24	70
Canned meats	—	5	—	—	—	—	1	—	6	3	—	—	9	3	21
TOTALS ...	7	15	45	—	2	1	62	3	135	84	24	1	52	91	387

TABLE 23

RAT DESTRUCTION AND DISINFESTATION

Total number of complaints received during the year:—

Rats	2,914
Mice	2,983

Complaints not finally dealt with by 31st December, 1970: 185

Analysis of above complaints :	*Business Premises*	*Dwelling Houses*	*Local Authority Premises*	*Total*
No action required following inspection	113	480	81	674
Cleared by Department	1,177	3,208	656	5,041
Cleared by occupier	40	29	12	81
Not finally dealt with carry (forward to 1972)	111	153	22	286
Totals	1,441	3,870	771	6,082

Visits and revisits for all purposes :

In respect of notifications under Part 1, Sec. 2. Prevention of Damage by Pests Act, 1949	18,389

Routine Inspections :

Ship inspections—Avonmouth (visits and revisits)	1,436
Avonmouth Dock	2,788
Portishead Dock	9
City Docks	59
City Airport	39
River/Canal Bank	139
Waste ground, vacant sites, etc.	876
Business premises (building sites, etc.)	163
Wasp nest destruction	1,442
Miscellaneous visits	437
Sewer treatment programme	20,383
Total	46,160

PIGEON CONTROL

	1971
No. of complaints received	157
No. of visits made	15,114

TABLE 24

DISINFECTION

Disinfection, Drain Tests, etc.

Total number of premises visited for all purposes including disinfection and disinfestation	28,105
Articles disinfected	59,783
Articles disinfested	2,694
Articles destroyed	3,054
Cleansing of verminous persons (baths)	66
Scabies Baths	7
Disinfections for Hospitals and Nursing Homes	11
Public Library books collected and disinfected	5
Foodstuffs, etc. collected and destroyed—	
No. of cans	510,766
Other foodstuffs (lbs.)	13,184
Premises visited	250
Drain Tests	43
Soiled linen service visits (articles collected, laundered and returned)	18,653
Other work (visits or journeys unclassified)	6,853
Total vehicle mileage for all purposes	41,482

TABLE 25

ATMOSPHERIC POLLUTION—SMOKE CONTROL ORDERS

SMOKE CONTROL ORDERS	*Domestic*	*Commercial*	*Industrial*	*Other*	*Total*	*Acreage of Area*	*Date Order Made*	*Date Order Confirmed*	*Date Order in Operation*
No. 1	315	1,053	109	33	1,510	220	9.12.58	24. 3.59	1.10.59
No. 2	113	79	34	12	238	50	24. 5.60	9. 9.60	1. 9.61
No. 3	438	582	18	39	1,077	100	24. 5.60	9. 9.60	1. 9.61
No. 4	632	113	12	10	767	100	24. 5.60	9. 9.60	1. 9.61
No. 5	27	15	1	5	48	15	24. 5.60	9. 9.60	1. 9.61
No. 6	10,625	149	27	31	10,832	3,000	13. 9.60	11. 5.61	1. 9.62
No. 7	3,523	81	5	24	3,633	1,580	11.12.62	16. 7.63	1.10.64
No. 8	8,276	177	17	75	8,545	2,150	23. 5.67	18. 4.68	1.10.70
No. 9 Making of this Order has been deferred by the Council.									
No. 10	1,794	181	44	28	2,047	304	10. 6.69	7.10.69	1.10.71
Total	25,743	2,430	267	257	28,697	7,519			

TABLE 26

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

(Registrations—General Inspections)

Number of premises registered during the year	521
Total number of registered premises at the end of the year	8,268
Number of registered premises receiving an inspection during the year	1,832

TABLE 27

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

(Number of visits of all kinds by inspectors to registered premises)

Offices	874
Retail shops	780
Wholesale shops and warehouses	84
Catering establishments and canteens	114
Fuel storage depots	—
Other visits L.A. Circ. 5. Para. 7	5,750
Total ...	7,602

TABLE 28

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

(Analysis of persons employed by workplace)

Offices	50,196
Retail shops	19,840
Wholesale departments, warehouses	6,028
Catering establishments open to the public	5,153
Canteens	765
Fuel storage depots	72
Total ...	82,054

TABLE 29

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

(Exemptions)

Total number of exemptions granted	3

TABLE 30

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

(Prosecutions instituted of which the hearings were completed in 1971)

Section Nos.	*No. of informations laid*	*No. of informations leading to a conviction*
6	2	2
4	1	1
16	2	2
18	2	2
9	1	1
24	1	1
50	1	1
Hoists and Lifts Regulation 7	1	1
" " " " 8	3	3
Total	14	14

No. of persons or Companies prosecuted	8
No. of Complaints under Section 22	Nil
Interim Orders granted	Nil

TABLE 31

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

(Accident Reports)

Total No. of accidents reported to the Local Authority	189

TABLE 32

SHOPS ACTS, 1950/65

Visits	Retail	2,748
	Wholesale	103
Revisits	Retail	10
	Wholesale	1
Infringements	Failure to exhibit notices	543
	Closing hours	64
	Meal intervals	2

SUNDAY ENTERTAINMENT ACT—CINEMAS

Visits	10
Revisits	—

YOUNG PERSONS (EMPLOYMENT) ACT, 1938

Visits	22

THE REPORT OF THE SCIENTIFIC ADVISER AND OFFICIAL AGRICULTURAL ANALYST FOR THE CITY AND COUNTY OF BRISTOL FOR THE YEAR 1971

Incorporating the work on behalf of the County of Gloucester and thte City of Gloucester

E. G. Whittle, B.Sc.(London), M.Chem.A., F.R.I.C.

INTRODUCTION

This report is the twelfth since the return of the Department to full Corporation control in 1960 and my twenty-fifth since my appoinment as Public Analyst in 1947.

A personal and somewhat disturbing illness in July 1971 caused me to think seriously of retirement and late in the year I advised the authority of my intention to retire in June, 1972, when I shall have completed 40 years in local government service. 26 years have been spent in the Bristol Laboratory, one year as deputy and 25 years as Public Analyst.

Much has indeed happened in that twenty-five years and in that time I have reported upon nearly a quarter of a million samples or specimens.

The staff has doubled since 1946 and the number of samples nearly quadrupled. Some 110 individuals have worked in these laboratories. Many have secured worthwhile appointments and many still retain contact with us. This aspect of the job has to me been one of the most satisfying in that we have set many of the staff on the road to useful and worthwhile analytical careers.

Analysis has become much more complicated and sophisticated. This laboratory in company with many of a similar character is now involved in U.V. and I.R. Spectroscopy, Fluorimetry, Flame Photometry, Atomic Absorption Spectroscopy, Chromatography, Electrophoresis and Polarography—techniques we had not dreamed of, let alone applied to P.A. work in the nineteen forties. Food and Drug legislation has grown rapidly and brought its problems.

All this has kept us very much on our toes. It has certainly made life interesting and dull moments have been few and far between.

But despite all the pressures and the continuously changing pattern of the work I can in all honesty say the job has always been worthwhile and certainly if I were starting again I would choose the same profession.

The one regret over the years has been that it was not found possible to rehouse the Department in purpose built laboratories. We have been in Canynge Hall 37 years. In 1934 the Public Analyst's laboratory arrived at Canynge Hall as the Chemical division of the old Preventive Medicine Department of the University, ostensibly for a period of three years, now running into its 38th year and with little prospect of rehousing in the near future. It is however, possible that Local Government reform may force re-consideration of this problem, but of one thing I am certain. Any move must be to a new and permanent home. Rehousing for a short period would be costly and disastrous to the smooth working of the laboratories which at present serve the analytical interests of not only Bristol City but also of Gloucester County and Gloucester City.

On the domestic front I must first congratulate Mr. G. J. Dickes on his securing the M.Chem.A. qualification. This is especially gratifying in that Mr. Dickes started here as a junior in 1951 and after national service and a period at Long Ashton returned to this laboratory in 1964.

I would also congratulate Mr. R. J. Greenslade on his election to the L.R.I.C.

Mrs. V. D. Hickman left in June for a complete change of work. She and her husband have taken over the running of a small inn at Bruton in Somerset. She would obviously welcome all old friends! Her work was taken over by Dr. D. J. Snodin, who we welcomed late in the year.

Work on Environmental problems has rapidly increased during the year and Mr. P. M. Holroyd was appointed to co-ordinate the work on Air Pollution matters.

Mrs. J. M. Creech left early in the year for medical reasons and I thank her for the valuable years of service particularly in the examination of Feeding Stuffs which she made her particular job. Mr. A. L. Thompson succeeded her and we welcome him and indeed all new members to our analytical team.

Our Field Officer, Mr. R. C. M. Putnam, had to undergo hospital treatment in early November. This proved a longer job than was first envisaged and whilst our old friend is making good progress he will not be with us again until early in the New Year.

The Avonmouth Survey started in late 1970 has continued throughout the year and the general situation was summarised and issued as a Press release in early November. A shift of emphasis was made shortly after in the sampling programme in an attempt to assess dietary intake of lead in foods, cabbage etc., as distinct from using vegetables as a means of assessing the magnitude of pollution. As a result of investigations elsewhere it may well become necessary and desirable to determine blood lead levels. A micro atomic absorption technique is available for determining low levels of lead in small quantities of blood. This could involve further expensive equipment which might be difficult to acquire in the light of the need for stringent local government economies.

In thanking all members of staff for all their help and co-operation during the year and indeed for many of them over many years, I would pay particular tribute to my deputy Mr. D. J. Taylor who has given me such valuable help and who fully maintained our services during my two months absence; to Mr. G. G. Fisher who arrived in the department in 1947 and whose work has been invaluable. I thank him for his loyalty and long friendship.

To Miss M. V. Westcott, another long serving and loyal colleague, I also pay tribute. Her diligence and enthusiasm for the job has been remarkable. She came to us with a degree in Botany and has become a first class food analyst and certainly one of the main props of the department.

I would also thank Mr. R. A. Evans, a more recent arrival, for the manner in which he has tackled and solved many awkward problems. His work on Electrophoresis has added another valuable weapon to our general usefulness.

The samples we are called upon to examine are the result of the activities of the Inspectors of the authorities we serve, and I must thank them for their help and co-operation. Over the years relations with the Inspectors have been very cordial. We have all learned a great deal. I would confirm that the Inspectors welcome the opportunities of close contact with the laboratory and the usefulness of a frank and open exchange of views on matters of mutual interest.

The Report follows the usual pattern with certain additions in respect of developing aspects of our work.

TABLE 1

SUMMARY OF SAMPLES EXAMINED DURING THE YEAR ENDED 31st DECEMBER 1971, FOR THE CITY AND COUNTY OF BRISTOL, THE COUNTY OF GLOUCESTER AND THE CITY OF GLOUCESTER

	Bristol	*Gloucester County*	*Gloucester City*
Milk	462	797	16
Food and Drugs	1,084	946	231
Waters, Swimming Baths and Effluents	317	100	—
Fertilisers and Feeding Stuffs	—	147	39
City	9	—	—
Avonmouth	323	—	—
Miscellaneous Samples	907	121	20
Port Health	628	—	—
	3,730	2,111	306
Environmental Surveys			
Lead peroxide	15	10	—
Deposit gauges	86	30	11
Dust nuisances	51	—	—
Smoke Recordings	376	—	—
Port of Bristol	24	—	—
Special Examinations	106	—	—
Avonmouth Survey	391	—	—
Thornbury Survey	—	85	—
	1,049	125	11
Rag Flock Act	36	—	—
Pharmacy and Poisons Act	3	9	—
District Inspectors' Samples	203	—	—
Spectrophotometric Analyses	554	15	12
Gas Chromatography Examinations	1	278	—
Trade Descriptions Act	131	150	—
Toys (Safety) Regulations	30	26	—
Atomic Absorption Analyses	491	68	2
Chlorination	234	100	1
Special Examinations	—	60	—
	1,683	706	15
TOTALS ...	6,462	2,942	332
GRAND TOTAL ...	9,736		

Smoke Recordings 417 submitted for check and record purposes only.

Part 1 FOOD AND DRUGS ACT

New legislation, Definitions, Reports and Recommendations

New legislation during 1971 was limited to an alteration in the law related to the use of preservatives. This was known as the Preservatives in Food (Amendment) Regulations 1971 which from the 1st September 1971 amended the 1962 Preservatives in Food Regulations by

a) imposing limits, for the first time, on the amounts of sodium nitrate (500 ppm) and sodium nitrite (200 ppm) which may be added to bacon and ham.

b) imposing a limit, for the first time, on the amount of sodium nitrate (500 ppm) which may be added to pickled meats, and

c) imposing, in respect of pickled meats, a limit on the amount of added sodium nitrite (200 ppm) which at present applies only to cooked pickled meat.

Potassium nitrate and potassium nitrite are permitted alternatives for sodium nitrate and sodium nitrite respectively.

In 1964, the Food Standards Committee of the Ministry of Agriculture, Fisheries and Food advised on the question of date marking pre-packed foods and in their report the Committee stated that although this may seem an attractive proposition to retailers and consumers, it was fraught with practical problems, and gave no guarantee as to the freshness and fitness of the food especially when condition of transportation and storage were unknown. Indeed, it may convey to the consumer a false sense of security. The committee was of the opinion that the main Food and Drug act gave adequate protection to the consumer who considers that food purchased is not of the nature, substance or quality demanded, and therefore did not make any recommendation regarding date marking of pre-packed food.

Since then, the Committee say in an interim report in 1971, a number of important developments have taken place in food marketing methods, and some firms are using date-marking clearly or in code, and as a result of investigation, food has been found on sale after the coded expiring date. This suggests that insufficient attention has been paid to stock control and that manufacturers, distribution and retailers are not co-operating effectively to see that food is sold in proper condition, and there is serious public disquiet. Nevertheless the Committee still felt there was adequate protection within Section 2 of the main Act and that there was no evidence of any Public Health hazard. It was therefore proposed that the whole question should be reviewed in the light of the developments in the last seven years.

Another group of food additives to be considered by the Food Additives and Contaminants Committee was that of Liquid Freezants. At present, these compounds are not controlled by any specific regulations, but their use is subject to the overriding provision of Section 1 of the Main Act which has regard to the inclusion of substances in foods and drugs which may be injurious to health. Typical examples of these additives are liquid nitrogen and proprietary freezants.

The Food Standards Committee were also asked in March to review the use of all unconventional proteins in food. These novel proteins include textured vegetable proteins made from such materials as soya bean and proteins from micro-organisms which are now generally referred to as "Single Cell Proteins". The Committee will consider whether any regulations are necessary to control their use in food.

In April, the Food Additives and Contaminants Committee issued a report on the use of the antioxidants BHT and BHA in food, and on the basis of toxicological information currently available, no change was suggested in the Antioxidant in Food Regulations 1966 relating to BHT, and that its use in chewing gum should not be allowed. Although no alteration in the specification for BHT was suggested at present, other considerations including the specification for BHT and BHA should be dealt with at the next full review of the Antioxidant in Food Regulations 1966.

In October, the Minister of Agriculture, Fisheries and Food issued proposals for regulations to amend the Bread and Flour Regulations 1963. These amendments would permit the use of Azodicarbonamide and L-Cysteine hydrochloride within quantitative limits as additional alternatives to the flour improving agents at present allowed, and to add ferrous sulphate as the permitted alternative form of iron. There was also a proposal to replace the specified form of reduced iron by a form of powdered iron and to relate other nutrients to be present in flour to specification in the B.P. 1968 and BPC 1954.

Recommendations for the safe use of various compounds in agriculture and food storage were published by the Ministry during the year.

The compounds described were: Azoprotryne, Fenitrothion, Levamisole, Linvron, Methyl N-Benzimidazol-2-YL-N-(Butyl Carbomyl), Phosphine: Pyrotechnic Mixtures, Quinomethionate, Tetramisole, Diuron, Mevinphos, Demephion, Terbutryne, Terbuthylazine, Pirimiphos-Methyl, Pirimicarb, Novastat-3, Zinc-Baeitracin, Rafoxanide, Alpha-Chloralose, Bromoxynil, Captafol, Diazinon, Dichlorbenil, Ioxynil, Phosmet, Tetrachloroisophthalonitrile, Dichlorvos Thermal Vaporisers, Endosulfan, 2-Chloroethylphosphonic Acid, Dichlorvos, Resmethrin, Parbendazole, Ranizole, Hygromycin 'B', Malathion, Mercurous Chloride, Methyl-N-Benzimidazol-2-YL-N-(Butylcarbamoyl) Carbamate, 2-Benzyl-4-Chlorophenol, Dichlorophen, S-Ethyl N-Cyclohexyl-N-Ethylthio-Carbamate, Propionic Acid, Carbaryl Embazin, Nitroxynil Eglumine Prolate, Thiabendazole, Aminozide, Methabenzthiazuron, Azinphos-Methyl, Aminozide, Stresnil, Levamisole, Nilzan and Oxyclozanide.

TABLE 2. PERCENTAGE ADULTERATION OVER 7 YEARS (BRISTOL ONLY)

	1964	1965	1966	1967	1968	1969	1970	1971
Total number of samples ...	2,982	2,567	1,620	1,806	2,277	1,731	2,974	1,681
Milks—Ordinary	1·43	—	1·4	0·16	1·08	—	—	0·26
Milks—Channel Islands ...	0·80	23·0	8·0	1·0	—	1·95	0·8	—
Foods	0·49	0·73	0·95	0·82	2·05	1·15	0·5	1·25
Drugs	1·6	1·98	3·4	3·54	3·4	—	—	—
Total	0·72	1·36	1·8	1·0	1·75	0·82	0·4	0·95

TABLE 3. AVERAGE COMPOSITION OF GENUINE MILKS FOR 1971

	No of samples	*Fat % average*	*Non-fatty solids % average*
Bristol—Ordinary Milks	361	3·55	8·89
Bristol—Channel Islands Milks	72	4·42	9·18
Gloucester County—Ordinary Milks ...	622	3·68	8·87
Gloucester County—Channel Islands Milks	159	4·55	9·34
Gloucester City—Ordinary Milks	14	3·53	8·96
Gloucester City—Channel Islands Milks ...	2	4·40	9·25

SUMMARY OF MILK ANALYSES

(Bristol Only)

Total Milks (ordinary and Channel Islands) ...	462
Formal Milks	9
Fat Deficiency ordinary	1
Channel Islands satisfactory	72
School Milks	10

For the second year running this represents a remarkable and satisfactory year's milk sampling. Only one instance of fat deficiency was recorded. All Channel Islands and School milks were satisfactory. There were no instances of abnormal milk and no evidence of watering.

ADULTERATED SAMPLES OTHER THAN MILK

ZD 8	Food Colouring	Contained the non permitted colouring Ponceau MX which was excluded from the permitted list as from January, 1971.
VD 159	Vinegar	Were found to be non brewed condiments.
VD 186	Vinegar	
VD 290	Beef Sausages	Contained a slight excess of sulphur dioxide 480 ppm. The maximum declared permissible amount is 450 ppm.
VD 305	Liquid Egg	These four samples failed to satisfy the Alpha amylase test and hence were not correctly pasteurised.
VD 308	Liquid Egg	
VD 322	Liquid Egg	
VD 336	Liquid Egg	
VD 375	Pork Sausages	11·4 per cent deficient in meat.
VD 405	Pork Sausages	5·4 per cent deficient in meat.
VD 419	Date and Fig Bar	Showed the presence of webbing and larva of the Indian Meal Moth.
VD 423	Banana Dessert Bar	
VD 424	Fruit Slice Bar	
ZD 247	Butter	Contained 16·2 and 16·6 per cent of water. Legal maximum is 16 per cent.
ZD 248	Butter	

COMMENT ON OTHER FOOD AND DRUGS SAMPLES

A number of samples of Tuna fish were generally acceptable in terms of mercury, lead and arsenic levels. One had an arsenic level at 1·7 ppm, another a lead figure of 5·5 ppm. The highest mercury figure was 0·8 ppm.

Samples of fresh fish including cod, haddock, coal and red fish were examined by electrophoresis as part of a programme of fish identification.

Samples of butter gave moisture figures of very near 16 per cent the permissible maximum. Comment has been made on previous occasions upon the fact that manufacturers are working very closely to the legal maximum as they are perfectly entitled to do.

Samples of Fish cakes gave fish contents in the range of 35 to 52 per cent. 35 per cent is the legal minimum. There is every prospect that the standard could and should be raised to at least 45 per cent. At the same time fish fingers should also be considered.

A Coffee and chicory mixture appeared to consist of not more than 46 per cent of coffee whereas the legal minimum is 51 per cent. Later information from the manufacturers indicated that the modern sources of coffee and chicory have different extractives.

Samples of whelks, cockles, mussels and winkles showed no undue amounts of lead, zinc or cadmium.

Samples of peanuts and walnuts were in satisfactory condition and were all free from aflatoxins.

PART II

FERTILISERS AND FEEDING STUFFS ACT

TABLE 4

	Formal	*Informal*	*Comment*
Fertilisers (City)	8	1	2
Feeding Stuffs (Avonmouth)		323	35

The irregularities involved excess protein and oil, low protein and oil and low drug levels in 35 feeding stuffs and high potash and high soluble and insoluble phosphate in the case of 2 fertilisers.

Special examinations for metals, copper and magnesium and for drugs such as clopidol, amprolium, sulphaquinoxaline, ethopabate, 3 Nitro arsanilic acid, dimetridazole etc., were required on 130 samples. That is 40 per cent of all feeding stuffs samples required special consideration in addition to the routine determinations of oil, protein and fibre.

PART III WATERS AND SEWAGE ANALYSES

TABLE 5—BRISTOL

Swimming Baths	218
Bristol Waterworks, Jubilee Tower	3
Bristol Waterworks, Canynge Hall	3
Council House Heating system	12
Effluents and sewages	3
Seepages	26
Pond waters	11
Dock waters	5
Spring waters	2
Miscellaneous (mostly mains waters)	39
	322

TABLE 6—BRISTOL WATERWORKS SUPPLY

Sampled at	*Canynge Hall*	*Jubilee Road*
No. of samples	3	3
	Range of variation (parts per million)	
Total Solids	257–400	223–360
Chloride	8–18	16–19
Nitrate Nitrogen ...	1·0–2·5	1·25–2·5
Total Hardness	174–232	155–250
Permanent Hardness ...	40–70	52–68

FIELD REPORT

Bristol

In addition to the regular supervision of water quality in the Parks Department paddling pools, advice and help has frequently been sought regarding the small pools installed in some schools.

Croydon Hall School sewage treatment plant also receives attention.

On two occasions help was given in tracing mysterious smells. One of these proved to be gases from an old refuse tip which had percolated into the wall cavity of a house. In the second case, a most offensive smell came from a small area of apparently solid concrete floor in a large warehouse. After digging out a small section and finding no underfloor cause, it was established that something "very smelly" had stood on that patch previously.

Gloucestershire

Advice and practical help have been given on a variety of subjects which have included:—

How to stop water leaking from a flooded gravel pit in order that aquatic sports can continue in dry weather.

How to construct and seal a dry chamber in ground with a high water table and extreme porosity—this latter was completed under detailed and continuous supervision.

Workshop

Various small design construction and repair jobs are carried through as they arise, saving considerable expense and time with the sophisticated equipment which is now used in chemical analysis.

PART IV RAG FLOCK ACT

Thirty-seven specimens of filling materials were submitted in the first instance to determine their nature by microscopical examination and then in appropriate cases to determine the chloride content which is limited by the Act to 30 parts per 100,000. All samples so examined complied with this requirement. Two samples required examination for dross which is the subject of a new British Standard Specification.

PART V PHARMACY AND POISONS ACT

It was again a quiet year. Only three samples were examined—an ammonia preparation correctly labelled as a Part II poison, a rodenticide, containing alpha chloralose and a kettle descaler which consisted of 65 per cent formic acid.

PART VI GAS LIQUID CHROMATOGRAPHY (GLC)

Very few foods were checked for pesticides on behalf of the City and the bulk of samples for this purpose came from Gloucester County. GLC techniques were in use however for the general clearance of soft drinks in respect of cyclamates.

PART VII INFRA-RED EXAMINATIONS

As in 1970 the bulk of these examinations related to the identification of the gradings of petrols and the differentiation of premium and ordinary grade paraffins.

I.R. techniques are valuable also for the identification of many organic compounds and in particular for the detection of brominated vegetable oils in soft drinks.

PART VIII SPECTROGRAPHIC EXAMINATIONS

The rapid growth of our work using Atomic Absorption techniques for trace metal work has meant a dramatic decrease in the spectrographic work from 1,140 samples in 1967 to only 554 in the period now under review. Most of these 554 samples came from the Port Health Office and herein lies a second reason for a fall off inasmuch as the City Docks have closed. Nevertheless there has been an offsetting of this in respect of samples derived from increased container services.

PART IX ATOMIC ABSORPTION EXAMINATIONS

Equipment for this work was set up in May 1970 and have proved invaluable in coping with the increasing volume of trace metal work in so many fields. 491 examinations were made on general trace metal problems together with 30 analyses under the Toys (Safety) Regulations and pollution analyses related to lead, zinc, cadmium and copper and continued examinations of foods for mercury levels.

PART X MISCELLANEOUS EXAMINATIONS

TABLE 7

1.	City and County of Bristol General Examinations	225
2.	Toxicological and Biochemical Examinations	229
3.	Foreign bodies, Insects and Infestation	138
4.	Gloucester County	120
5.	Education Department	48
6.	City Police	1
7.	Port Health Office	608
8.	Weights and Measures Department	
	(a) Petrols T.D.A.	109
	(b) Paraffins T.D.A.	18
	(c) Miscellaneous	8
	(d) Toys (Safety) Regulations	16
9.	Housing Department	1
10.	Baths Superintendent	3
11.	District Inspectors Samples	203
12.	Bristol University	8
13.	Port of Bristol Authority	32
14.	Electrophoresis—fish identification	16
15.	Gloucester City	15
16.	Special Survey arising from complaints	51
		1,849

1. City and County of Bristol General Examinations

A selection is made of the more interesting of the 225 specimens submitted.

An alleged specimen of tobacco was shown to be of resinous consistency but with only a mere trace of cannabis.

Seventeen samples alleged to be demineralised waters were examined for solids, pH and the presence of Hydrochloric and Sulphuric acid.

Milk samples from the Orang Utang (Bristol Zoo) were examined for protein. This information was required for the preparation of the feed of a baby orang utang. Later a gorilla's milk was similarly examined.

Several soft drinks were examined for the presence of cyclamates now a banned sweetening agent. No evidence of cyclamates was found.

A powder of unknown composition was alleged to have been used as a deterrent to dogs. The powder was essentially cayenne pepper.

A plant or flower reviving powder consisted of a mixture of sugar and salt.

The yellow coloration on some white sheets was due to the inadequate washing which left behind washing powder residues.

The backbone of a mackerel showed green colour which was natural to a fish very similar to the mackerel and often fished with it.

A sample of fish had a very pronounced brown colour, which was due to the excessive use of a permitted colouring Brown F.K.

A problem of contamination relating to a small concrete area was shown to have arisen as a result of urine contamination since heavy amounts of urea were demonstrated.

Sausage skins were shown to be essentially protein matter probably casein.

Crystals collected in a petri dish were shown to consist of pentachlorophenol a wood preservative.

A request was received for the identification of a plant. It was shown to be the Himalayan Honey suckle introduced into this country in 1824. It was also known as the flowering nutmeg.

A general examination of a cognac was made as a result of a request for a certificate for export purposes.

A handbag was shown to be made of lizard skin as was stated.

A sample of porkburgers was shown to be free from rancidity. The burgers were in good condition despite an enclosed free offer voucher expiring some months earlier.

2. Biochemical and Toxicological

A shampoo was found to contain 1 per cent of cetavlon. Such preparations have good defatting properties.

Twenty-five specimens of lung tissue were examined for DDT, DDE and BHC. In all cases the amounts were less than 0·55 ppm.

An orange juice gave no indication of the presences of mandrax, ethyl alcohol or other hypnotics.

A piece of hip tissue was examined for chromium and cobalt. The amounts were 110 and 42 ppm respectively.

A piece of femur was examined for lead. The amount found 25 ppm was not thought to be abnormal or unusual.

A powder contained lactose and maize starch but no drugs as was alleged.

Powder and tablets from a hospital were identified as sodium barbitone and saccharin respectively.

Towards the end of the year a request was received from the Royal Cornwall Hospital, Truro, to examine a series of six urines for gold. The request was as a result of the treatment of a patient with gold injections with reference to rheumatoid arthritis.

In all 229 specimens were submitted of which 22 were urines examined for lead levels; 154 urines were examined for mercury as part of a screening survey for a local organisation using mercury as a seed dressing; one blood was examined for mercury, one blood for copper, three bloods for lead and one urine for arsenic.

3. Foreign bodies in foods, insects and infestation

This section of our work is always of great interest and indeed some amusement when drawn upon for lecture purposes. We have long since ceased to wonder at the variety of strange items that find their way in foodstuffs. Few are deliberate additions, many are accidental and not a few we suspect may be due to sabotage! Indeed over the years we have developed much sympathy with manufacturers and particularly with dairies re-using bottles after some members of the public have used them for other than the intended purpose!

A sample of Cough Mixture contained foreign matter that proved to be due to a dozen black garden ants attracted to the cough mixture by the honey used in the preparation.

A sample of bread contained a rectangular piece of rigid plastic.

Foreign matter from a fish pond shown to be algal growth coloured with permanganate.

Sausages containing a foreign body was dark hair probably a man-made fibre from a brush.

A grapefruit containing foreign matter proved to be naringin, an intensely bitter natural ingredient of grapefruit.

Insects were identified as Bryobia praetiosa, the clover or gooseberry mite, a serious pest of fruit trees, shrubs and plants.

A sample of rice containing foreign matter was a portion of a cigarette showing some charring.

A milk bottle contained foreign matter which appeared to be varnish residues.

A part of a jam tart contained two small insect eyes and the shrivelled body of an insect.

A worm was identified as a hair worm common in freshwater ponds.

A foreign body in butter was a paring of a finger nail.

A meat pie contained a single coil spring washer, together with grey coloured sponge like material consisting essentially of iron.

A sample of milk contained a green strand of material comprising animal and nylon fibres, possibly carpet wool.

A worm from mackerel shown to be a nematode worm some ten centimetres long.

A sample of flour contained several live book lice.

A sample of Pan Yan Pickle contained a Rove beetle.

A sample of ice cream contained a pellet of rodent excreta.

Webbing was found on the inner wrapper of a packet of Muesli. The contents contained one dead and one live larva of the Ephestia moth.

A peppermint cream was found to contain the foot of a small bird, probably a sparrow.

Samples of pork and beef sausages contained very small fly larvae of the blue bottle estimated as being above 24 hours old and would mature in about a week.

A biscuit contained a portion of cottonwool.

A sample of cocoa was contaminated with salt.

Milk contained an orange red substance shown to be a trace of tomato ketchup.

The grittiness of a sample of cheese was due to citrates and phosphates present as emulsifying salts.

A sample of caster sugar contained a dried up portion of banana.

A sample of peas contained the seed pod of the wild radish.

Alleged foreign matter in a sample of fish fingers was portions of inner fish skin.

The small dark object in a boiled egg was of fine unicellular matter probably a gland from the reproductive system of the hen.

A prawn curry contained a portion of a slug or snail. The piece was identified as a part of the buccal cavity with the rasping tongue or radula.

A sample of plums contained a dark red beetle Aphodius rufipes, a common country species.

A sample of milk contained a liquid bacterial growth probably an exudate from the cow.

Foreign matter in a sample of bread pudding was a piece of metal comprising 95 per cent tin and 5 per cent lead.

A sample of Muesli, a mixture of cereal and dried fruit, contained two dead beetles identified as the Australian Spider beetle.

A foreign body in a Scone was identified as portions of cardboard, possibly from a box or packing material.

Alleged mould growth on a Mince Pie proved to be finely divided aluminium from the cup which held the pie.

A piece of wood alleged to have been found in a steak and kidney pie was confirmed as a clean wood fragment 3/10″ long and $\frac{1}{4}$″ wide.

A sample of Muscovado sugar contained an irregular shaped piece of iron weighing over 10 grams.

A sample of flour contained two pieces of fuse wire and a length of fine white plastic.

4. Gloucester County

The 121 miscellaneous samples will be considered under the Report to the County Authority.

5. Education Department

Thirty contract samples of household commodities such as detergents, soaps, foam cleansers, soap powders, floor sweeping compounds and disinfectants were examined for composition in relation to price. Recommendations were made as to the best value for the money.

16 soil samples were satisfactory with respect to pH and sulphates.

Two polishes were satisfactory with respect to their composition.

6. City Police

A drum of liquid submitted by the Found property was shown to be hydrochloric acid. The drum and its contents were accepted for disposal.

7. Port Health Office

608 samples were accepted for examination of which the majority were canned goods.

Six samples of canned beans showed external signs of refurbishing of the can ends giving the impression of renovated stock of some age.

Samples of bitter orange contained small amounts of diphenyl of the order of 2 ppm. The 1962 Regulations permit up to 100 ppm.

Samples of pork shoulder meat were in a decomposing condition due in part to unsatisfactory storage. They were condemned as unfit for human consumption.

Various canned fish products were examined for trace metals. Nothing excessive was found and in particular mercury contents were of a low order.

Somewhat surprisingly Canadian Spring Wheat was found to contain ergot, a fungus more normally associated with rye. Figures of the order of 0·07 per cent were first found. Clean up procedures brought the figures to 0·01 and 0·006 per cent. A Ministry of Agriculture, Fisheries and Food tolerance in 1964 proposed a maximum of 0·025 per cent .

A sample of sweet potatoes showed purple patches due to natural anthocycnin type pigments.

A sample of stabilac consisted of sucrose and calcium hydroxide and was a thickening substance within the meaning of the Emulsifier and Stabiliser Regulations 1962 and is not permitted in foods in this country.

8. Weights and Measures Department

This Department submitted samples mainly with reference to Consumer Protection and the Toys (Safety) Regulations. The 151 samples were classified thus.

Petrols	Trade	109
Paraffins	Descriptions Act	18
Toys (Safety) Regulations ...	...	16
Miscellaneous	...	8

Infra red examination is of great help in sorting the gradings or star ratings of petrols although the ultimate criteria must be an actual octane rating test. Four of the 109 samples were questioned. Two were re-sampled and two sent for octane testing.

Paraffin samples are examined for grade. This may be either premium or regular. Premium grade fuels are essential for use in non-flued free standing paraffin space heating appliances. In particular premium fuels are of better quality and do not cause smoke problems. One of the 18 fuels submitted was in question. This was alleged to have contained water but this fault was not upheld.

The sixteen toys were examined for metals, lead, chromium, cadmium, arsenic, barium and antimony. Lead and chromium are the usual cause of failures and three specimens contravened the Regulations for excessive lead and/or chromium in the paint films. Another aspect of the Toys (Safety) Regulations concerns the use of cellulose nitrate. No toy shall whether wholly or in part be made of or impregnated with cellulose nitrate. The Regulation does not, however, apply to the ball used for ping-pong or table tennis.

9. Housing Department

Only one request was received. A cement sand mixture was shown to contain an excess of lime.

10. Baths Superintendent

Two filtering preparations were examined for general efficiency. One had certain obvious advantages. Some pH tablets were checked for accuracy.

11. District Inspectors Samples

This was a particularly busy year and 203 specimens were accepted. Among insects identified were the house moth, the Australian spider beetle, the common blue bottle, the drug store beetle, the churchyard beetle, the fur beetle, wood lice, clover mite, red spiders, saw-toothed grain beetle, larder beetle, oriental cockroach, summer chafer, meal worm beetle, cat flea, winged ants, the body louse, cheese skippers and the common gnat.

There were several specimens requiring confirmation as mouse excreta. This is largely dependent on the microscopic identification of typical mouse hairs.

Various fruit pulps were checked for preservative (SO_2) content. Excess was found in one instance.

12. Bristol University

Eight pond waters from the Mendips were examined with reference to a research project. Within the limits of the amount of sample available determinations were made of pH, free ammonia, chlorine, hardness and sulphates.

13. Port of Bristol Authority

Thirty-two examinations were required.

Two hand cleaning preparations were compared with results obtained in similar preparations examined in Feb. 1969.

A portion of brick and plaster was shown to be heavily contaminated with urine.

Four samples of Hard Winter Wheat were checked for protein content.

Twenty dock waters were examined for silt content.

14. Electrophoresis—Fish Identification

Eighteen samples of fresh fish which included cod, haddock, plaice, whiting, halibut, coal fish, red fish and skate were all satisfactorily identified. At the moment it is only possible to apply the electrophoresis technique to raw fish because cooking processes will denature the proteins upon which the method depends. Work is in hand to extend the technique if possible to meat products.

15. Gloucester City

Fifteen samples were examined and are considered in the Report to Gloucester City in Part XII.

16. Special Survey arising from complaints

Three problems were investigated and these involved some 51 specimens of which the majority, 30 in all, related to the possible uptake of amyl and ethyl acetate using activated charcoal as the

collecting medium. No solvent was detected. The limit of detection was 0·5 milligrams per cubic metre. A factory tolerance limit is set at 1,500 milligrams per cubic metre.

Fourteen test plates were examined for residues of cardboard waste. The amounts ranged from Nil to 1·56 tons per square mile.

Seven dusts collected in Petri dishes over a period of 14 days all showed lignified fibres. The calculated rates of deposition ranged from 0·29 to 0·41 tons per square mile.

PART XI

REPORT ON THE WORK FOR THE COUNTY OF GLOUCESTER

This is my twentieth Annual Report on the analytical and chemical advisory service provided for the County under the terms of the 1951 Agreement made with the Bristol City Council.

The main services relate to the examination of food and drugs, fertilisers and feeding stuffs, water, sewage and effluents, Trade Descriptions Act, Pharmacy and Poisons Act and Toys (Safety) Regulations. Examinations are also made for pesticides and advice is given regarding special surveys and in work relative to water, sewage and air pollution.

The table indicating the Summary of examinations shows a fall in overall examinations of 357. There were in fact 258 less milk samples as compared with 1970, forty less Fertilisers and feeding stuffs but with increased sampling of Toys and under the Trade Descriptions Act and Atomic Absorption Examinations.

SUMMARY OF EXAMINATIONS

Milks	797
Food and Drugs	946
Waters, Swimming Baths and Effluents	100
Fertilisers and Feeding Stuffs	147
Miscellaneous	121
Pharmacy and Poisons Act	9
Spectrophotometric Analyses	15
Gas Chromatography Examinations	278
Trade Descriptions Act	150
Toys (Safety) Regulations	26
Atomic Absorption Analyses	68
Chlorination problems	100
Special Examinations	60
Environmental Surveys	
Lead Peroxide	10
Deposit Gauges	30
Thornbury Survey	85
	2,942

SUMMARY OF MILK SAMPLES

Total Milks	797
Formal Milks	781
Ordinary Milk—fat deficient	7
„ „ —added water	11
„ „ —poor quality	4
Abnormal solids not fat	7
Channel Islands—satisfactory	159
„ „ —fat deficient	1
„ „ —poor quality	Nil
School Milks	11
Antibiotic Milks	449
Positive Antibiotic Milks	6
% Antibiotic positives	1·3

Of the 797 samples of milk examined only 18 were returned as unsatisfactory in respect of the Sale of Milk Regulations, together with one Channel Islands milk which was fat deficient.

This indicated that the supply of good quality milk was being maintained with a very low proportion of irregular samples.

The situation with regard to milks examined for antibiotics showed a good and promising improvement on the previous year, as the following table, since tests were initiated, shows:—

Year	*No. of Samples*	*No. of Positive results*	*% Failures*
1966	776	39	5·0
1967	1,431	57	3·6
1968	890	8	0·9
1969	1,447	19	1·3
1970	725	39	5·4
1971	449	6	1·3
Six year figures	5,718	168	2·9

Foods and Drugs receiving adverse comment

Indian Tonic Water	A complaint sample lacked the dissolved carbon dioxide content of a control, also submitted. It was flat and out of condition.
Phenergen Tablets	Stated to be 25 mg tablets of promethazene hydrochloride. Only 21·6 mg were found. Tablets probably old stock.
Luncheon Meat	Contained 78·5% of meat whereas 80% is the requirement. Designated as poor quality.
Rheumatism Tablets	Found to be 60% deficient in salicylamide, but subsequent investigation revealed a new formulation with salicylamide partly replaced by paracetamol.
Beef and Pork Sausages	Shown to have a meat content of 54·7%. A figure of 57·5% might reasonably be expected having regard to the respective standards for pork and beef sausages.
Glauber's Salt	Found to have lost water on sampling and was in consequence not strictly of B.P. quality.
Fresh Cut Lemons	Stated to contain preservative, but found to be free from sulphites and benzoates. It was subsequently learned that a small amount of a stabiliser, propylene glycol ester, had been used to prevent oxidation of the oil of lemon. It could therefore equally be regarded as a preservative.
Shredded Suet	Contained 5·3% less fat than required by standard (83%).
Plain Flour	Only 1·33 mg of iron per 100 g found. Statutory requirement is a minimum of 1·65 mg per 100 g.
Buttered Bun	No butterfat present.

Comment on other Foods and Drugs showing points of special interest

Orange and Rosehip Syrup	The Vitamin C content was three times that of average syrup and was thus correctly described as extra rich in that vitamin.
Snuff and Twist Tobacco	Ten samples of snuff and one of twist tobacco were examined for pesticides. The BHC levels were mostly less than 0·10 ppm. with three samples above at 0·42, 0·48 and 0·50 ppm respectively. The DDT levels ranged from 0·10 to 3·9 ppm.
Mincemeat	A formal sample contained 12·5% of fat—an unusually high amount when the minimum requirement is only 2·5%. The indication was that the article was badly prepared.
Ham	A sample consisted of 63% lean meat, 5% jelly with 31% of fat and 0·7% of skin. The article did not warrant the description skinned and de-fatted in the light of analysis.

School Meals	Six packed school meals were examined for moisture, fat, protein, ash and carbohydrate, from which an assessment of the calorific value of the meals was calculated. The figures ranged from 630 to 842 calories, with one low value at 438 calories.
Wines	Two samples of wine, a cream sherry type and a hock type, were shown to consist of concentrated grape juice. Comment was made on the labelling of these articles, the contents of which were required for preparation of the respective wines. Some re-shaping and re-description seemed desirable in the interest of stricter description of the products.
Raisin Flavour Cordial	Contained two permitted colours, but no Ponceau MX.
Marzipan	Two samples taken and each contained 0·2% of acetic acid, probably to enhance flavour.
Buttermints, flavoured	The sweets contained only 0·6% of butterfat, but were a flavoured article. The word "buttermint" was, however, used on the sweet wrapper without qualification.

Foreign Bodies in Foods

Bread	The foreign body was a round wire nail, 1″ long with distinct signs of rust along its length corresponding with a brown stain in the slice.
Raspberries in Syrup	Contained a foreign body identified as a Honey Bee.
Bottle of Milk	Contained a foreign body identified as a holly leaf.
Strawberries in Syrup	The foreign body was an outdior beetle, probably one of the Click Beetles.
Canned Cream	This had developed a curious separation and "bittiness" and was unusable. The trouble appeared to be due to an organism Bacillus cereus, which produces an enzyme, which in turn coagulates fat and protein to produce this condition known as "bitty cream".
Fresh Farm Eggs	Two eggs from a carton of six had been cooked and opened. One of these contained a chick embryo filling almost the entire shell. From its advanced state of development it was estimated that it was at least 18 days old and within a few days of hatching.
Fish	Three uncooked fillets of fish were each found to contain a nematode worm. The species normally found is a common parasite in fish and is harmless to man.
Sterilised Cream	Dark patches found in the cream were due to iron and not mould growth. The iron probably came from the superficial rusting of the can.
Bottle of Milk	The milk contained fragments of glass weighing 9·4 g. The four largest fragments ranged from 1·2 to nearly 4 g. in weight. The curvature and characteristics of the pieces suggested a portion of the neck of a milk bottle, but the actual bottle submitted was intact.
Plum Pie	The fruit filling was infected by mould growth of the Aspergillus type.
Margarine	It was found to contain a minute gnat of the genus Sciara. The time and point of access of the insect into the package could not be ascertained.
Cheese	On the surface there were several thin patches of mould growth of the Penicillium type.
Cheese Roll	Contained a small box staple.
Loaf of Bread	Contained a rusty flat strip of metal essentially iron.
Meat and Onion Pie	Contained a tuft of bovine hairs attached to a portion of gristle.
Fancy Cakes	Two out of the six cakes showed signs of mould growth.
Sausage Roll	A foreign body was identified as a pellet of rodent excreta.

Pharmacy and Poisons Act

Nine samples were examined and included a rust-remover based on phosphoric acid, two hair colouring preparations both satisfactory if used as instructed; a steam iron cleaner and a weed

killer with less than 5 per cent of parquat; a specimen of sulphamic acid for use as a descaler in waterheaters, a bleach preparation containing 5·2 per cent of available chlorine, a sample containing 34 per cent of formaldehyde and hence a Part II Poison and finally an anti-freeze screen washing fluid consisting primarily of methyl alcohol with a small amount of isopropyl alcohol.

Trade Descriptions Act

150 specimens were examined—the busiest year yet in respect of this Act.

Among the items were the following:—

38 Paraffins, 1 Cruet Set, 1 Skimmed Milk, 3 Silage, 6 Fresh Fish, 3 Potting Composts, 3 Petrol/Oil mixtures, 6 shampoos and cleaners, 1 Strawberries, 1 Cold Water Starch, 1 Lubricant, 1 Indian Joss Sticks, 56 Distilled or D Water, 1 Insect repellent, 1 Damp proofing Liquid, 2 dog and cat foods, 2 Fish Food, 1 Paint brush, 1 Everlasting Match, 1 contra ick, 1 Tapwater, 1 Indicator Solution, 4 Petrols, 1 Cooking Oil, 2 Canadian Salmon, and 3 Cosmetic preparations.

Paraffins were checked for composition in terms of aromatics, smoke point, and markers. Most samples were shown to be premium grade fuels essentially for use in free standing domestic paraffin heaters.

Petrols were checked for composition against the stated ratings.

The distilled or de-ionised waters related to problems involving garages dispensing the item as a service to motorists. In several instances there was partial or complete substitution with tapwater often with significant amounts of sulphuric acid.

The cruet set was stated to be 18/8 stainless steel. The figures relate to the percentages of chromium and nickel which were shown to be of the order of 18 and 8 per cent respectively.

Fresh fish samples of salmon, herring, mackerel, coley, sea bream and hake were identified as such using the technique of electrophoresis. This technique is well established for the identification of fresh fish species. Cooked fish is not so readily amenable to such identification. It is hoped to extend the work to identification of fresh meats.

A sample of strawberries alleged to be freshly picked and of top quality showed a high proportion of mouldy and out of condition fruits.

Some Indian Joss sticks carried claims of antiseptic and disinfectant properties. Traces of phenols and formaldehyde were produced when the sticks were burnt thus in part at least upholding the claims made.

A so-called everlasting match was a fuel lighter and would strictly only be everlasting as long as it was supplied with lighter fuel.

A product known as Contra Ick was found to contain malachite green which is effective against ick flukes, shimmyitch and astia.

Toys (Safety) Regulations

Twenty-six toys were submitted and the majority proved to be satisfactory.

Comments were made on:—

A hammer and peg set containing excess of both lead and chromium in the paint on the hammer head. The lead was at 33,000 ppm and the soluble chromium 2,400 ppm. The Regulations lay down a maximum of 5,000 ppm for lead and 250 ppm for soluble chromium.

A wooden Goods Train contained in the paint lead in excess of 5,000 ppm and soluble chromium at 250 ppm.

A dump lorry with both lead and chromium in excess of statutory requirements.

Fertilisers and Feeding Stuffs

	Formal	*Informal*	*Comment*
Fertilisers	56	12	10
Feeding Stuffs	79	—	18
Official Sample	1		
Special Examinations for drug additions	39		

From the 147 samples submitted ten fertilisers and 18 feeding stuffs received adverse comment.

Of the 18 Feeding Stuffs several required statements on the additives present.

A meal had an undesirable level of salt whilst other preparations showed excesses and deficiences in protein and oil.

Of the 10 Fertilisers adverse features included high insoluble phosphate. Whilst a batch of six compound fish manures all from one source, showed low insoluble phosphates.

The 39 Special Examinations required determinations of urea, copper, magnesium and the drugs amprolium, sulphaquinoxaline, ethopabate, dimetridazole, Zoalene dinitolmide and nifursol.

Six feeding stuffs were selected for examination for pesticides. Traces only of BHC were found in the range of 0·01 to 0·05 ppm.

Similarly six fertilisers contained BHC in the range 0·01 to 0·02 ppm.

Waters, Swimming Baths and Effluents

One hundred examinations were made of supplies in the rural district areas of Gloucester, Dursley, Stroud, Cirencester, Sodbury, Warmley, Thornbury, Nailsworth, Tetbury, East Dean and West Dean, and the urban districts of Kingswood and Mangotsfield.

The work was essentially routine and called for no special comment.

Miscellaneous Examinations

121 specimens were submitted and a selection of the more interesting items is appended.

A baby food somewhat surprisingly contained 8 per cent of salt.

Gloucester County Constabulary submitted a small quantity of strychnine for destruction. We welcome the surrender of such dangerous drugs.

A liver sausage contained a small bifurcated rivet.

A packet of crisps contained a waterproof adhesive finger dressing but no further human remains!

A bread contained a portion of soiled dough and a small amount of lecithin, an emulsifying agent used in the baking industry.

A school meal contained bovine hairs probably derived from poor trimming of the meat.

A sample of bread contained a crumpled pale blue cellulose cleaning tissue.

A milk contained a curved fragment of glass.

A bread contained a piece of iron wire.

Sodbury RDC submitted three chemicals for identification and disposal. They were potassium ferricyanide, potassium cyanide and a chromium intensifier.

A bread contained a male house spider.

A pie contained a portion of stainless steel.

Crumpets were found covered with mould growth.

A faggot contained a common house fly.

A sneezing powder contained the drug quillaia saponaria and an itching powder consisted of the fibres from cowhage.

A milk bottle contained five small fruit flies.

A corned beef contained 2 grams of metal.

A dust consisted entirely of cedar pollen.

A ground rice contained 30 live beetles identified as the saw-toothed grain beetle.

The cause of dark breast meat on a chicken was shown to be due to haematoma or blood clotting.

Gas Liquid Chromatography (GLC)

The 1967 and 1968 surveys of Pesticides in food were successfully completed and nationally reported and it was accepted that sampling for pesticides should be continued as a matter of routine food sampling policy. 278 foods were so examined. DDT and BHC remained the primary pesticides, which were found in a wide variety of foods. A few of the findings are listed.

Apples with 0·27 ppm DDT and 0·14 ppm BHC.

Parsnips with 0·12 BHC and 0·24 ppm DDE.

Swedes with 2·46 ppm of combined DDT and DDE, and a second sample of the same vegetable with 0·21 ppm BHC.

Lard with 0·42 ppm DDT.

Cod Liver Oil with 0·23 ppm DDT.

Pears with 0·23 and 0·15 ppm DDT respectively.

Lettuce with 0·80 ppm PCNB, pentachlor-nitrobenzene.

Fish samples included in this section were examined for methyl mercury with results in the range NIL to 0·08 ppm as mercury.

Suet with 0·44 ppm DDT and 0·48 ppm BHC.

Cheese with 0·12 and 0·10 ppm of DDT.

New Zealand Apples with 0·69 ppm DDT.

Raisins with 0·42, 0·22 and 0·19 ppm DDT.

A further five cod liver oils with DDT and its breakdown products ranging from 0·38 to 0·91 ppm.

Whilst it is possible with GLC techniques to find very low levels of pesticides in many foods, the general inference of the year's work is that even with the few foods with significant pesticide levels there is no cause for alarm. But the sampling must be continued in order to watch trends and the occurrence of new pesticides.

Special Examinations

8 pigs livers and kidneys were examined for arsenic and copper levels. The arsenic ranged from NIL to 1·4 ppm and the copper 0·5 to 20 ppm with one sample at 51 ppm.

Two citrus fruit drinks were checked for presence of cyclamates and brominated vegetable oils. Neither were found.

Eighteen chickens, 19 fish and 3 frozen prawn samples were checked for uptake of water in respect of true weights of the foods involved.

PART XII

REPORT ON THE WORK FOR THE CITY OF GLOUCESTER

Summary of Examinations

Milk	16
Food and Drugs	231
Fertilisers and Feeding Stuffs	39
Miscellaneous	20
Deposit gauges	11
Spectrophometric Analyses	12
Atomic Absorption Analyses	2
Chlorination	1
	332

This is some fifty samples less than in 1970, mainly accounted for by a 40 sample drop in food and drugs examinations. Otherwise the pattern is much as usual.

Foreign Bodies in Food

Bread in which the foreign matter was soiled dough.

A bread roll with cheese and cress which contained a piece of jute fibre derived from sacking.

A partly eaten apple turnover which contained a fragment of an insect was not specifically identified.

A minced beef contained a tuft of bovine hairs attached to a piece of gristle.

A cottage pie contained a small scorched portion of the pie crust.

Adulterated samples

Only three foods were returned as adulterated.

A sample of pork sausages was 5·2 per cent deficient in meat.

An ice cream was 80 per cent deficient in fat.

A sausage meat was 5·8 per cent deficient in meat.

Comment on other Foods

Several items received comment and included were a milk powder which was a dried milk within the meaning of the Regulations.

A baby food, however, was exempt from the Dried Milk Regulations since it actually contained less than 70 per cent of Full Cream Dried Milk.

A sample of Pork and Beef Sausages with only 54 per cent meat was regarded as of poor quality. 57 per cent minimum meat would seem a reasonable minimum for a mixed meat product.

A beer gave no evidence of detergent as was alleged.

A sample of liquid egg failed to satisfy the alpha-amylase test which is an index of satisfactory pasteurisation.

A can of apricots was in poor condition and probably old stock. The tin content was 110 ppm.

Three samples of beefburgers had meat contents of the order of 80 per cent. The Canned Meat Regulations provide that burgers generally are classified as meat with cereal products and hence 80 per cent of meat would be an acceptable minimum.

Miscellaneous specimens

A sample designated as foreign matter contained no cannabis as was alleged.

Six soils were satisfactory in respect of pH and sulphates.

The grey discolouration on a cheese was due to a mould growth.

A bread contained foreign matter which was scorched dough.

A bird seed contained hemp seedlings.

Two water samples were free from undue metal contamination.

A specimen of dust consisted of cotton and wool fibres probably derived from clothing and carpets.

Fertilisers and Feeding Stuffs

39 samples were submitted of which one feeding stuff had a slightly high fibre content; one bone meal was low in phosphate.

PART XIII

AIR POLLUTION

For many years measurements of air pollution have been confined to the use of rain gauges and lead peroxide cylinders. Work on the environment has in the last year gone well beyond simply air polution as the table below now illustrates.

ENVIRONMENTAL SURVEYS

	Bristol	*Gloucester County*	*Gloucester City*
Lead peroxide	15	10	—
Deposit gauges	86	30	11
Dust nuisances	51		
Smoke Recordings	376		
Port of Bristol samples ...	24		
Special Examinations ...	106		
Avonmouth Survey	391		
Thornbury Survey	—	85	
	1,049	125	11

Lead peroxide assays of sulphur dioxide pollution were largely confined to the early part of the year. With the need to keep lead contamination to an absolute minimum in dealing with blood lead assays the work on lead cylinders was brought to a complete halt and we obviously feel that any use of lead in the laboratory should be literally avoided like the plague!

Special surveys in Avonmouth and Thornbury have expanded dramatically and from the small beginnings of late 1970 much more detailed work has been expected of us.

Thus the pattern of reporting upon this section of our work in relation to rain gauges and sulphur dioxide has been severely pruned.

Reports on special surveys have been made to the Working Party now set up to study the data. This being so I do not propose to refer to these reports particularly as work is still continuing.

CITY SURVEY

Total deposit in tons per square mile per year

	* *Waterworks*	*Shaftesbury Crusade*	*Zoological Gardens*	*Blaise Castle*
1954 ...	263	273	143	124
1965 ...	132	73 (6 mths)	92 (11 mths)	99 (11 mths)
1966 ...	110	126	71	106
1967 ...	125 (11 mths)	157 (11 mths)	91 (10 mths)	121 (11 mths)
1968 ...	132	124 (10 mths)	98	139
1969 ...	112 (11 mths)	142	94	112
1970 ...	124 (11 mths)	153	112	121
1971 ...	No data	151	82	103

Total rainfall in inches

	* *Waterworks*	*Shaftesbury Crusade*	*Zoological Gardens*	*Blaise Castle*
1954 ...	41·4	38·7	40·2	40·2
1965 ...	29·1	19·4 (6 mths)	27·1 (11 mths)	28·0 (11 mths)
1966 ...	27·8	33·4	36·0	35·6
1967 ...	25·6 (11 mths)	27·8 (11 mths)	30·9 (11 mths)	29·9 (11 mths)
1968 ...	33·5	29·2 (10 mths)	37·0	36·0
1969 ...	25·1 (11 mths)	27·2	31·0	30·2
1970 ...	29·3 (11 mths)	29·9	34·3	33·1
1971 ...	No data	33·4	37·1	36·0

* C.W.S. Building, City Centre, since 1965.

Average SO_3 mgms. per 100 sq. cm. per day

	** *Waterworks*	*Shaftesbury Crusade*	*Zoological Gardens*	*Blaise Castle*
1954 ...	1·94	2·29	0·61	0·96
1965 ...	1·78	2·40	0·84	0·76
1966 ...	1·85	1·68	0·81	0·80
1967 ...	1·47	1·68	0·51	0·69
1968 ...	1·35	1·52	0·56	0·70
1969 ...	1·37	1·65	0·63	0·78
1970 ...	1·44	1·96	0·60	0·76
1971 ...	No data	2·15*	0·76*	0·95*

* First three months only.
** C.W.S. Building, City Centre since 1965.

THE AVONMOUTH SURVEY

SO_3 mgms. per 100 sq. cm. per day

1965	1·48
1966	1·07
1967	0·84
1968	0·85
1969	0·90
1970	1·19
1971	1·4 —2 months only

THE THORNBURY SURVEY

Average SO_3 mgms. per 100 sq. cm. per day

	Walning Farm	*Brynleaze Farm*
1965 ...	0·48	0·78
1966 ...	0·48	0·64
1967 ...	0·44	0·59
1968 ...	0·50	0·60
1969 ...	0·55	0·47
1970 ...	0·58	0·73
1971 ...	0·62*	0·64*

* 3 months only.

Deposit in tons per sq. mile

	Walning Farm	*Brynleaze Farm*
1965 ...	95·7	70·1
1966 ...	43·9 (9 mths)	52·3 (7 mths)
1967 ...	89·6 (11 mths)	87·8 (11 mths)
1968 ...	81·7 (8 mths)	109·2
1969 ...	92·6	83·4
1970 ...	130·2	95·0
1971 ...	102·5	105·9

Rainfall in inches

	Walning Farm	*Brynleaze Farm*
1965 ...	23·2	22·0
1966 ...	13·4 (9 mths)	16·0 (7 mths)
1967 ...	25·9 (11 mths)	22·5 (11 mths)
1968 ...	23·0 (8 mths)	30·0
1969 ...	28·3	27·8
1970 ...	32·2	30·3
1971 ...	35·7	38·2

THE GLOUCESTER CITY SURVEY

	Deposit tons per sq. mile	*Rainfall in inches*	*Average SO_3 mgms per 100 sq. cm. per day*
1965 ...	104	22·6	1·82
1966 ...	120	24·5	1·62
1967 ...	127	27·4	1·49
1968 ...	128	30·2	1·46
1969 ...	58 (9 mths)	16·3 (9 mths)	No reading
1970 ...	72 (10 mths)	19·0 (11 mths)	No reading
1971 ...	86	22·8	No data

THE CENTRAL HEALTH CLINIC

	Deposit tons per sq. mile	*Rainfall in inches*
1965	180·9 (11 mths)	36·0 (11 mths)
1966	194	34
1967	160 (11 mths)	28·2 (11 mths)
1968	174·5	32·6
1969	143·4	27·6
1970	170	30·6
1971	150·4	35·3

PART XIV

OTHER ACTIVITIES

This part of the Report is derived from a perusal of the year's diary and covers such matters as lectures, court attendances, visits, committees and meetings.

Thus eleven court proceedings related to antibiotics in milk, watered and fat deficient milks, mouldy pies, fertiliser deficient in nitrogen, hairs in a meat and onion pie.

Visits were made by members of staff to the County Laboratory at Taunton, the Meat Research Station at Langford and the University of Bristol, for a lecture on Industrial Air Pollution. Mr. Taylor attended a two-day course at Salford and Messrs. Evans, Dickes and Fudge attended meetings and committees in Brighton, London, Birmingham, Long Ashton, Leatherhead and Chepstow. These visits included Committee work on Colours in Food, and conferences on Organophosphorus pesticides, Emulsifiers and Stabilisers; Electrophoresis, Fruit Products, Food Additives and Laboratory Administration.

Thirty-five lectures both general and special were given during the year to Public Health Inspectors; Diploma in Public Health Students; 5th year Medicals, Cadet Nurses, Gloucester County Weights and Measures Inspectors, Rotary Clubs, Townswomen's Guilds, Catering Managers and several schools.

Thirteen meetings during the year related to Environmental Pollution matters and this included those of the Working Party and the Scientific Sub-committee of that party.

Two Zone 3 meetings were held. One at Bath in March and the second in October in Taunton. These were particularly successful and well attended. Besides the analytical discussions these meetings have to my mind the exceptionally useful function of bringing closely together the technical staffs of the seven laboratories in the zone.

The Gloucester County General Purposes Committee visited the laboratories in April and like their predecessors of the W. & M. Committee expressed themselves as well satisfied with what they were able to see.

I am still privileged to attend meetings of the Panel responsible for the collection of Pesticide Data and I remain an Assessor for the Royal Institute of Chemistry Examination Board for the M.Chem.A. qualification.

Finally, I would personally thank the Chairman and members of the Health Committee for permission to attend London meetings of the Association of Public Analysts where much valuable and vital work is done on many aspects of the Analyst's work.

VETERINARY OFFICERS REPORT 1971

J. Allcock, B.V.Sc., M.R.C.V.S.
(Inspector under Diseases of Animals Act)

Pet Animals Act 1951

Thirty premises were licensed for the sale of pets under this Act.

In previous reports mention has been made of very varying standards and lapses in standards in the months following inspection. More repeat visits have been made and several licences were withheld until defective conditions improved. One prosecution for breaches of licence conditions is pending.

Boarding Establishments

Only two premises within the City are licensed under the Act. Both are satisfactory. During the year I have commented on several sets of proposals to establish boarding kennels within the City, but for various reasons none of these have got to the licensing stage.

Riding Establishments

Two riding establishments are licensed — both have been visited several times during the year.

Slaughter of Animals

Bristol is a major centre for slaughtering of animals for food purposes. I am happy to report that during the year it was decided that no animals would be slaughtered in the Corporation abattoir unless they were stunned.

Notifiable Diseases

No diseases notifiable under the Diseases of Animals Act have occurred during the year. Anthrax was suspected on two premises, one a knacker yard and one in experimental animals on a seventh storey. Both incidents were negative, but appropriate disinfection action was taken.

Port Work

Constant problems and queries arise in connection with the port of Avonmouth. Many of these are simple requests for information from members of the public, but at the same time constant attention has to be paid to the normal traffic of animals in the port.

Pollution

Towards the end of the year steps were started to monitor possible atmospheric pollution using animals kept around Avonmouth area as monitors.

General

Much of the work is almost non-reportable, being general advice to the public, other Corporation departments, other local authorities. At the same time I receive lots of help from such bodies and again I must thank them.

P&S DEPT. V3080